

STATE OF ARKANSAS
STATE HIGHWAY COMMISSION

PLAN OF PROPOSED BRIDGE
OVER
OUACHITA RIVER
UNION-CALHOUN COUNTIES

167
ROUTE SEC. 2 & 3
JOB NO 7108

FISCAL YEAR			
1929	Job No 7108	SHEET NO 1	TOTAL SHEETS 20
Hy. & Br. Imp. Co.			

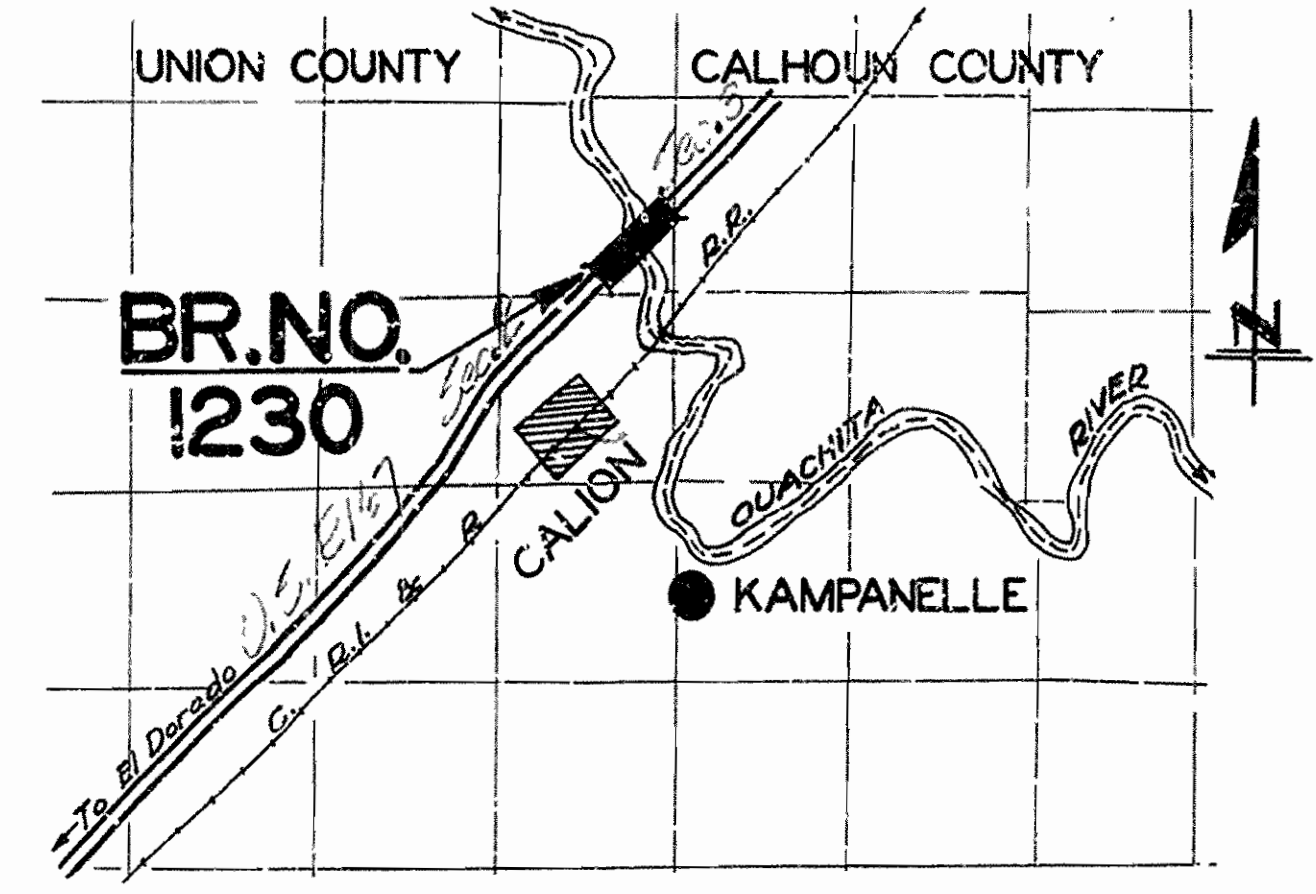
INDEX OF SHEETS

SHEET No	Dwg. No.	TITLE SHEET
1	1692	TITLE SHEET
2	1693	BORING DATA & MAP OF VICINITY
3	1694	GENERAL LAYOUT OF BRIDGE
4	1695	LAYOUT OF CONCRETE APPROACH
5	1696	LAYOUT OF STEEL TRUSS SPANS
6	1697	DETAILS OF END BENTS & INT. BENTS
7	1698	DETAILS OF 45'-0" R.C.D. GIRDER SPANS
8	1699	DETAILS OF 22'-0" R.C.D. GIRDER SPANS & TOWERS
9	1700	DETAILS OF PIERS 1, 2, 7 & 8
10	1701	DETAILS OF PIERS 3 & 6
11	1702	DETAILS OF PIERS 4 & 5
12	1703	DETAILS OF 140'-0" DECK TRUSS FOR SPANS 1, 2, 6 & 7
13	1704	DETAILS OF TRUSS SPANS 1, 2, 6 & 7 AND STEEL BENTS
14	1705	ERECTION DIAGRAMS, STRESS DIAGRAMS & DETAIL FOR SPANS 3, 4 & 5
15	1706	DETAILS OF 140'-0" DECK TRUSS FOR SPANS 3 & 5
16	1707	DETAILS OF TRUSS SPANS 3, 4 & 5
17	1708	DETAILS OF MAIN TRUSS SPAN-16-4
18	1709	DETAILS OF TRUSS SPANS 3, 4 & 5
19	1710	BENDING DIAGRAMS & MINOR DETAILS
20	1711	DETAILS OF NAME PLATES

QUANTITIES

ITEM No.	DESCRIPTION	QUANTITY
13	DRY EXCAV. FOR STRUCTURES	1959 CU YD.
13	WET " " " " " "	4223 " "
54	CLASS 2" CONCRETE	3871 " "
54	" " 5" " " " "	2546 " "
54	SEAL CONCRETE (CLASS A)	753 " "
55	REINFORCING STEEL	813,404 LBS.
56	STRUCTURAL STEEL	1,575,000 LBS.
66	UNTREATED TIMBER PILING	9,177 Lin Ft.
68	PRECAST CONCRETE PILING	13,110 " "
74	CONG. RAILING FOR STRUCTS.	4693 " "

ITEM No.	FINAL QUANTITIES	QUANTITY
12	Earth Excavation	34,000
13	Dry Excavation For Sps	1959
13	Wet " " " " " "	4223
54	Class 2" Co. Cst.	3,745.89
54	" " 5" " " " "	2,536.08
54	Seal Concrete Class A	847.3
55	Reinforcing Ste.	813,404 Lbs
56	Structural Steel	1,575,000 " "
56	Untreated Timber Piling	9,177 Lin Ft.
60	Untreated Timber Piling 4"	11,200 " "
68	Precast Concrete Piling	15,400 " "
59	Co. Cst. Railing	2,360 Lbs.
74	Co. Cst. Railing	15,310 Lbs.
S.P.	Unt. Timber for Ret. Wall	242,000 " "
S.P.	Concrete for Ret. Wall	96,426 " "
S.P.	Cherry for Ret. Wall	15,500 " "
S.P.	Steel for Ret. Wall	112,920 Lbs.



The Specifications adopted by the State Highway Commission, May 30th, 1923 apply with subsequent revisions and Special Provisions noted apply to this Project.

Pamphlet	Revised	Date
A	Revised	Sept. 1st, 1928
B		
C		
D	Revised	July 1st, 1928
E		
F		
G		
H	Revised	Oct. 1st 1928
I		
J	Revised	Jan. 1st, 1929
K		
L	Revised	Jan. 1st, 1929

SPECIAL PROVISIONS

Item	No. of Sheets
Concrete Piling	3
Engineer's Office	1
Seal Concrete	2
Concrete	1

LAYOUT

Scale: 1" = 1 Mi.
LENGTH OF PROJECT = 2500'-1 5/8"
LENGTH OF BRIDGES = 2500'-1 5/8"
LENGTH OF EMBANKMENT = 0

APPROVED
CHAIRMAN - STATE HIGHWAY COMMISSION

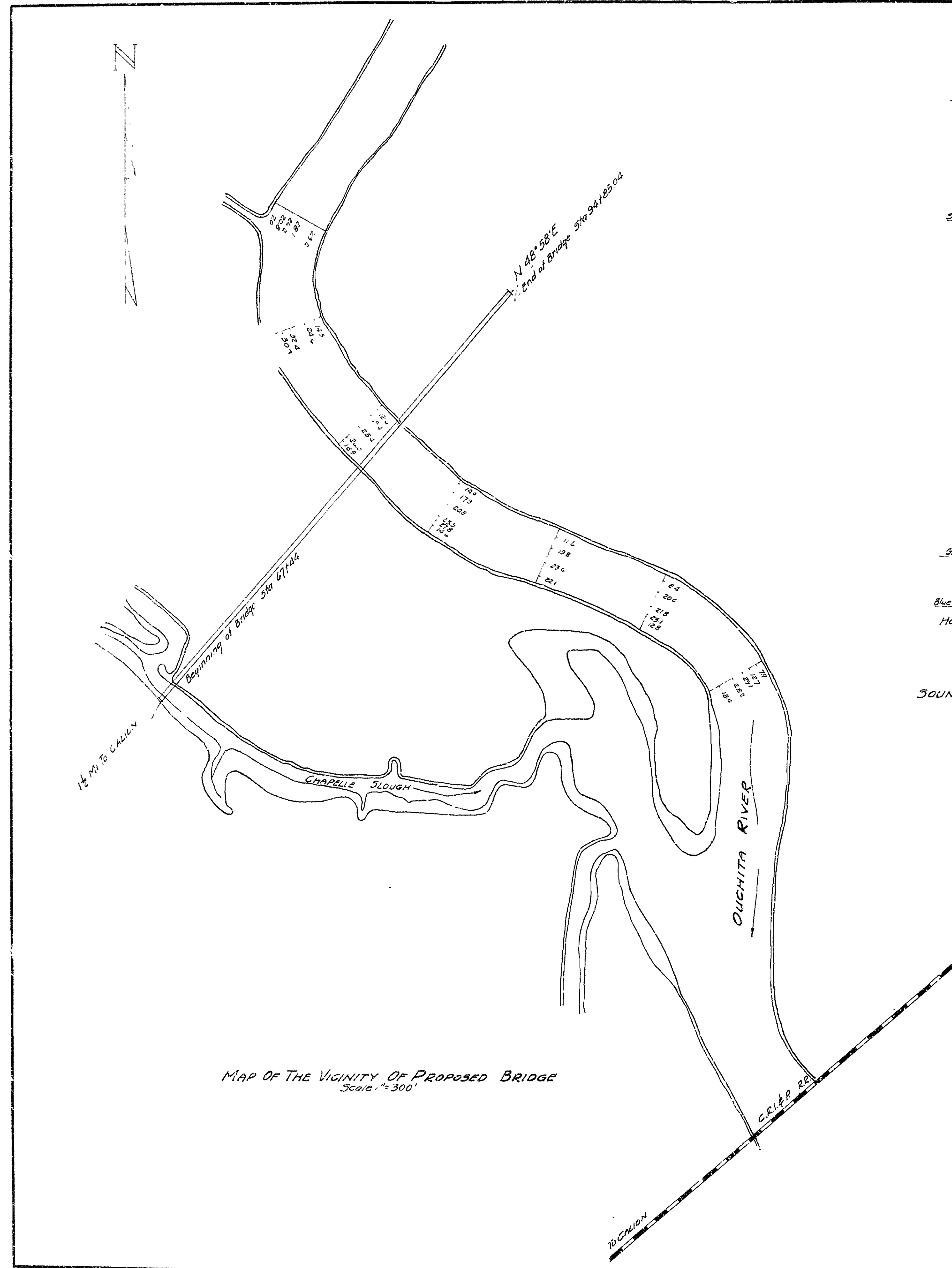
APPROVED
STATE HIGHWAY ENGINEER

M.B. Garrow
BRIDGE ENGINEER

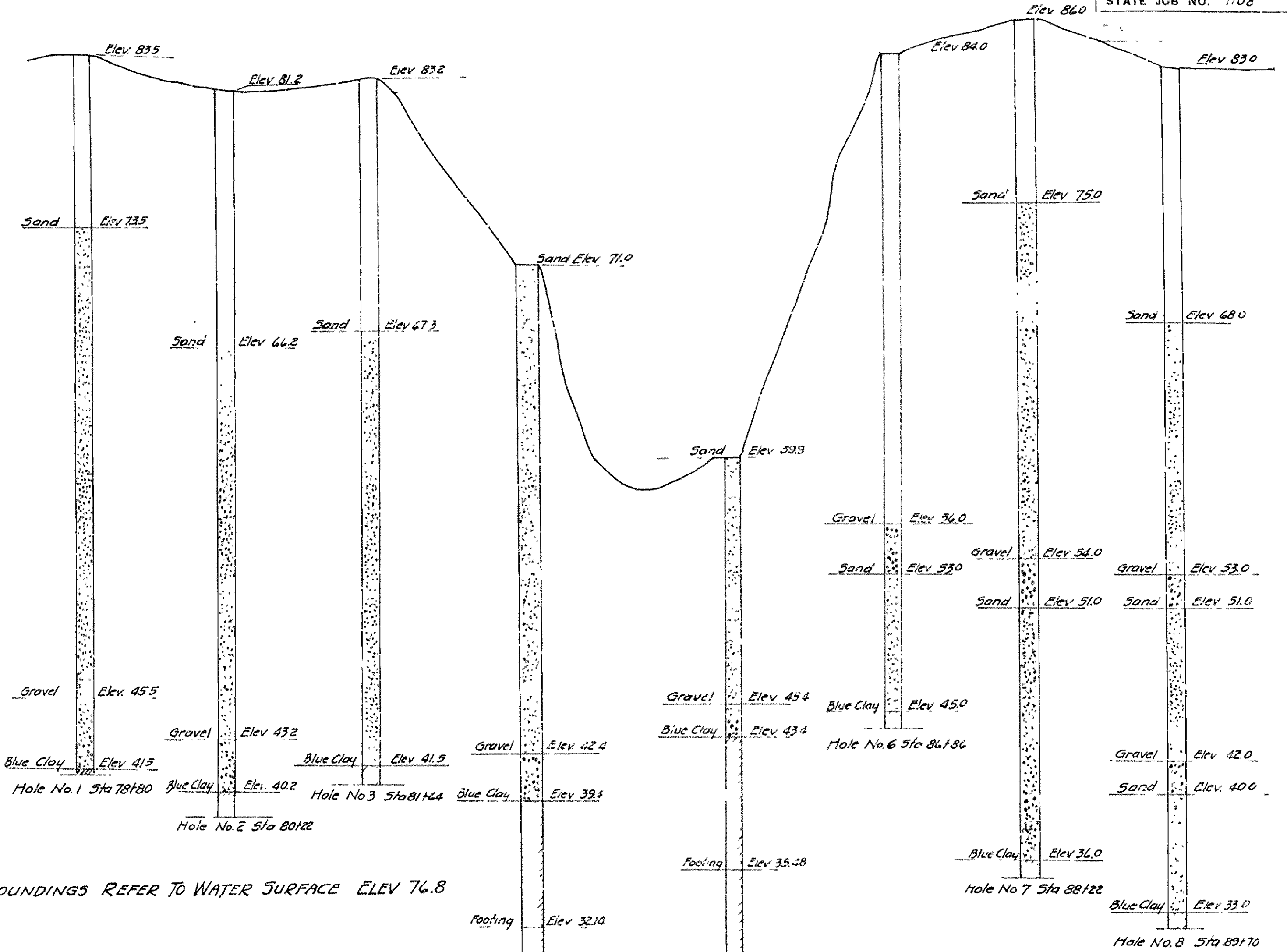
BRIDGES No. 1230

DRAWING No. 1692

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.				
STATE JOB NO. 7108			1929	2	13



MAP OF THE VICINITY OF PROPOSED BRIDGE
Scale: 1" = 300'



SOUNDINGS REFER TO WATER SURFACE ELEV 76.8

Original

BORING DATA

MAP OF THE VICINITY OF THE PROPOSED BRIDGE OVER OUACHITA RIVER AT CALION ARK.

UNION-CALHOUN COUNTIES
ROUTE 119 SECS. 1 & 2

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

Drawn By: *H.B.* Date: _____
Traced By: *L. Jans* Date: *6-27-29*
Checked By: _____ Date: _____
BRIDGE NO. 1230 DRAWING NO 1693

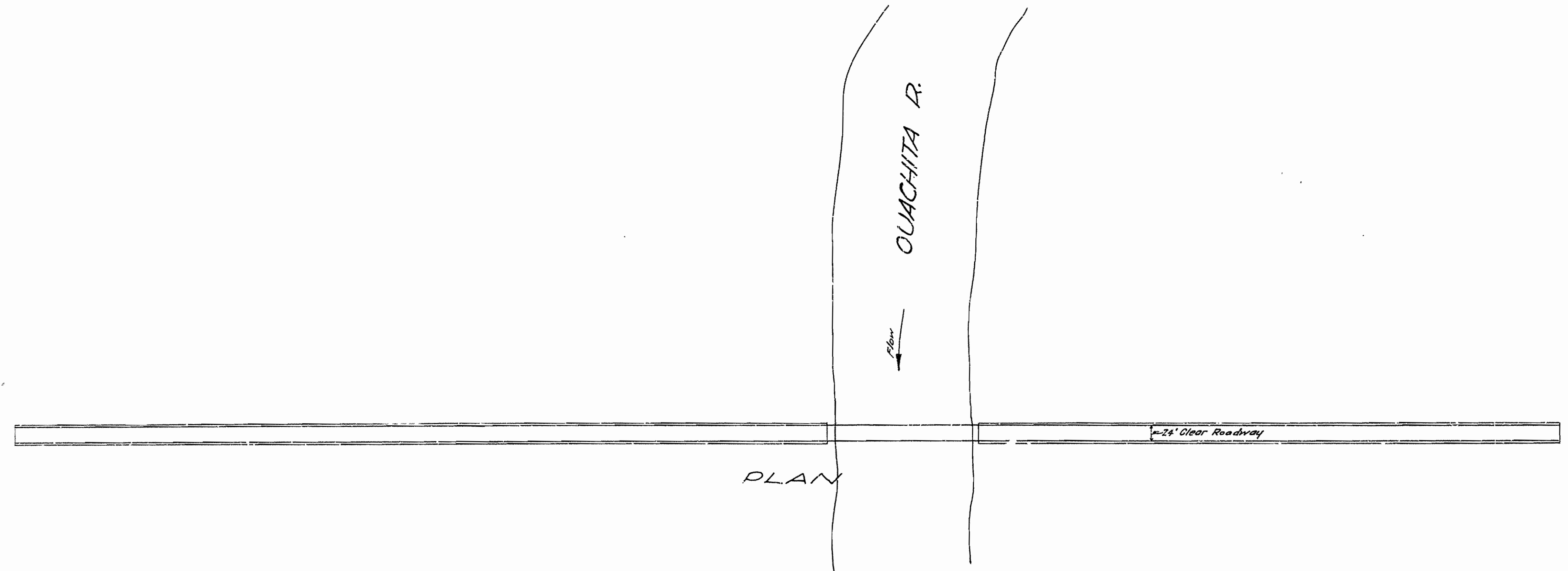
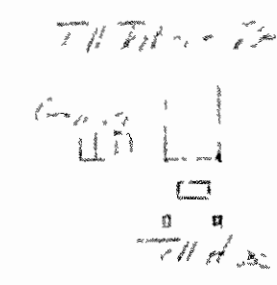
BORING DATA
Hor. Scale: 1" = 80'-0" Vert. Scale: 1" = 5'-0"

Note:
Traced from Blue Print
By: *J.H.* Date: *12-1-39*

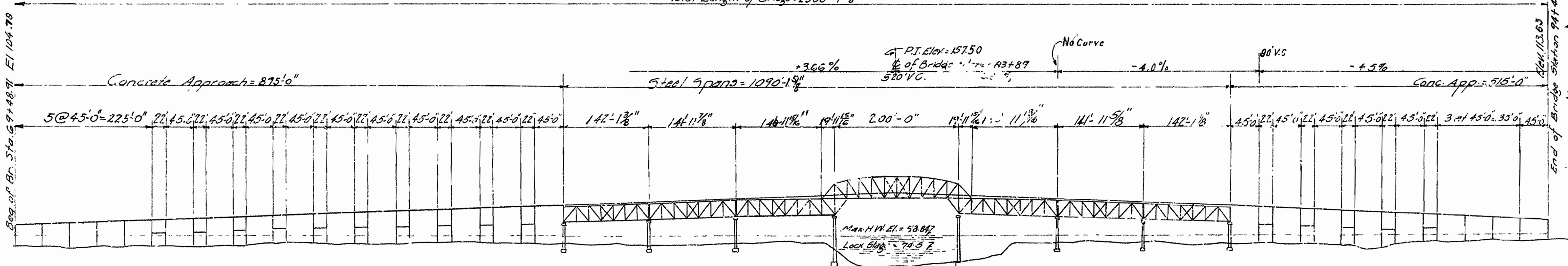
PRINCIPAL HIGHWAY ENGINEER (BRIDGE)

FISCAL YEAR	Job No	SHEET NO	TOTAL SHEETS
1929	7103	3	3

Hy. & Br. Impr. Proj



Total Length of Bridge - 7500'-1 7/8"



ELEVATION

YEAR	River Stage		
	No. of days at or above	El. 191'	El. 190'
1928	39.0	3.0	0.0
1927	138.0	40.0	12.5
1926	39.5	2.5	0.0
1925	5.5	0.0	0.0
1924	2.0	0.0	0.0
1923	74.0	11.5	0.0
1922	63.0	12.5	0.0
1921	61.0	6.0	0.0
1920	73.0	13.0	0.0
1919	90.0	15.0	0.0
1918	19.5	0.0	0.0
1917	10.0	0.0	0.0
1916	32.0	11.5	2.0
1915	42.0	2.0	0.0
1914	46.0	10.5	0.0
1913	48.0	3.0	0.0
1912	78.0	24.0	0.0
1911	22.0	11.0	0.0
1910	23.0	0.0	0.0
1909	24.0	0.0	0.0

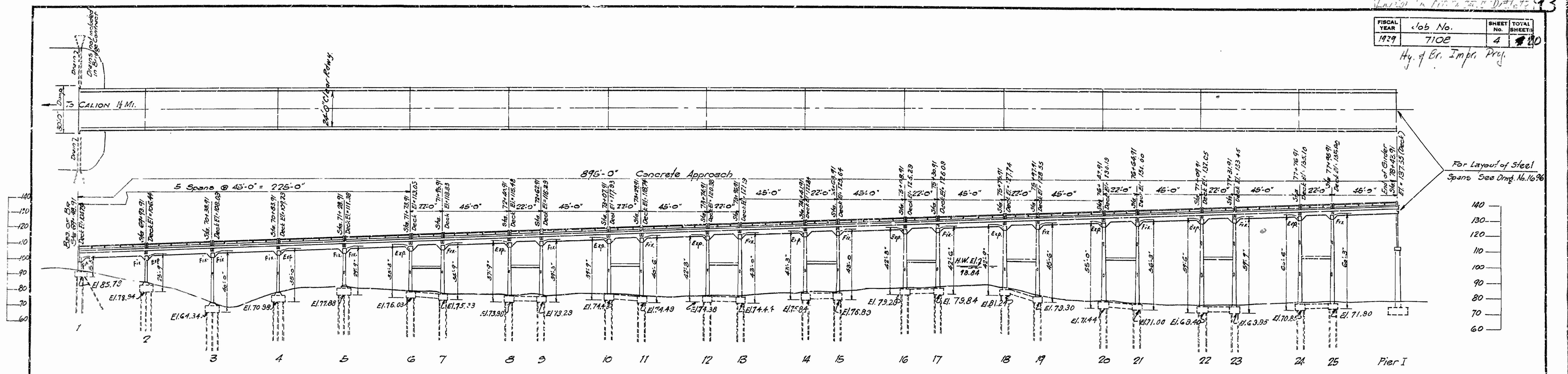
Revised Nov. 17, 1929
Grade Change

- QUANTITIES (DRIG)**
- APPROACH SPANS**
- ITEM NO 13 DRY EXCAV. FOR STR. 1391 CU. YD.
 - " " 13 WET " " " " 618 "
 - " " 54 CLASS 2 CONCRETE 1638.2 "
 - " " 54 CLASS 3 CONCRETE 1837.9 "
 - " " 55 REINF. STEEL 602,478 LBS.
 - " " 68 PRECAST CONC. PILING 8050 LBS.
 - " " 74 CONC. RAIL FOR STR. 3003 "
- SUPERSTRUCTURE - TRUSS SPANS**
- ITEM NO 54 CLASS 3 CONG. 7081 CU. YD.
 - " " 55 REINF. STEEL 58926 LBS.
 - " " 56 STR. STEEL (TR. 135E) 575000 LBS.
- SUBSTRUCTURE - TRUSS SPANS**
- ITEM NO 13 DRY EXCAV. FOR STR. 568 CU. YD.
 - " " 13 WET " " " " 3615 "
 - " " 54 CLASS 2 CONG. 2032.8 "
 - " " 54 SEAL CONG. 753 "
 - " " 55 REINF. STEEL 112,000 LBS.
 - " " 66 UNTR. TIMBER PILING 2177 LBS.
 - " " 68 PRECAST CONC. PILING 3060 LBS.
 - " " 74 CONC. RAIL FOR STR. 1689 "

GENERAL LAYOUT OF BRIDGE OVER
OUACHITA RIVER
AT CALION, ARKANSAS
UNION - CALHOUN COUNTIES
ROUTE # 167 SEC. 2 & 3
167
ARKANSAS STATE HIGHWAY DEPARTMENT
LITTLE ROCK, ARK.

Drawn By: W.C. Date: 10/22/29
Traced By: W.C. Date: 10/22/29
Checked By: W.C. Date: 10/22/29
Scale: 1/4" = 100 ft.
BRIDGE NO. 1230 DRAWING NO. 1674

W.R. Gower
BRIDGE ENGINEER

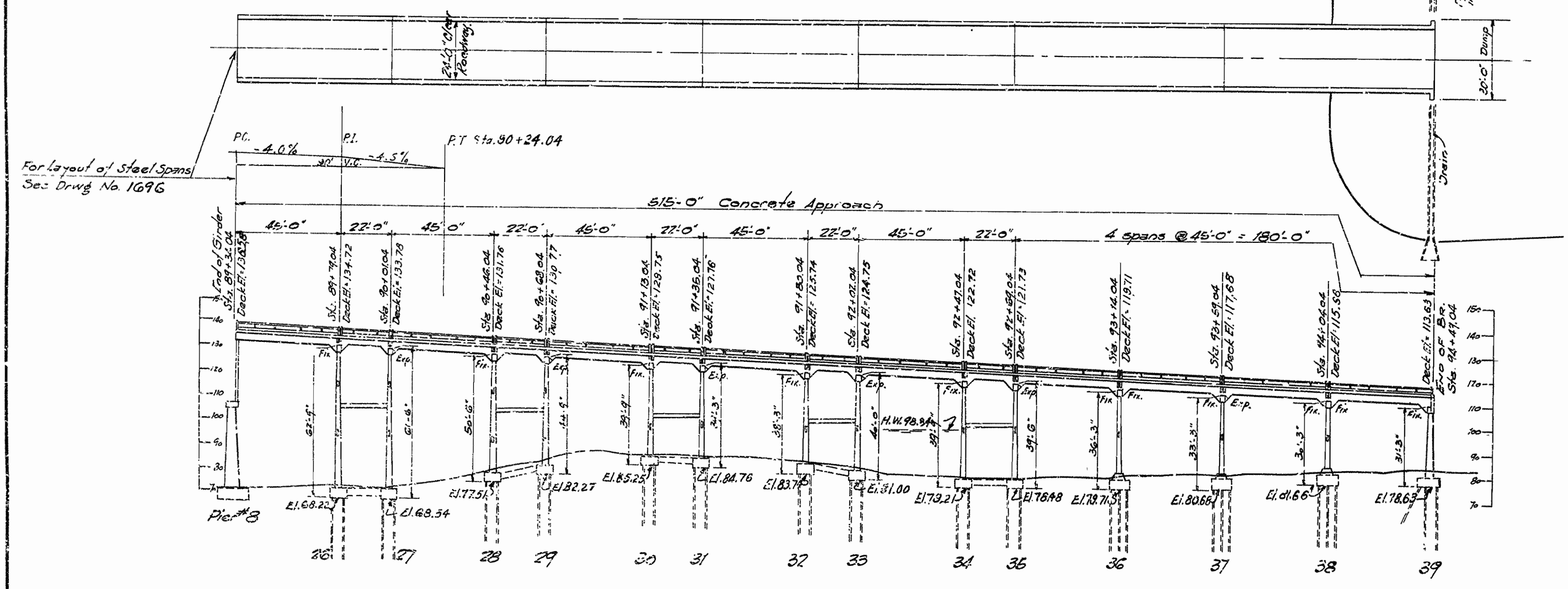


SOUTH-WEST APPROACH

B.M. El. 87.05 Nail in base of 6" Thorn Tree
 85' Left of Sta. 83+00 on Original Line
 This B.M. to be tied in with Govt Bench Marks before
 construction begins.

Note: Lengths of piling shown are assumed for estimating
 quantities only. Actual lengths to be determined in the field.
 All piling estimated 25'-0" long in approaches.

General Notes:-
 All Concrete piles to have 30 Tons Capacity
 All exposed corners to have 3/4" Chamfer unless otherwise
 noted.
 Concrete Handrail to be Class-D- Max. Sp. 3"
 Reinforcing steel to be deformed bars of Structural or Intermediate
 Grade. Stop Lift and Bending Diagrams of Reinforcing Steel must be
 submitted by the Contractor before fabrication is begun.
 Roadway Drains and Expansion Devices on Concrete Approaches
 to be paid for at Unit Prices bid for Reinforcing Steel.
 All Concrete above top of Column Caps, except Handrail, to be
 Class 'S' Concrete. All Concrete below top of Column Caps to be Class 'A' Conc.
 All Concrete to be poured in the dry, except seal.
 Volume occupied by embedded pile heads not included in pay quantities
 of Concrete in Footings.
 Specifications: Arkansas Standard Road and Bridge Specifications
 adopted May 30, 1923 and Revised.



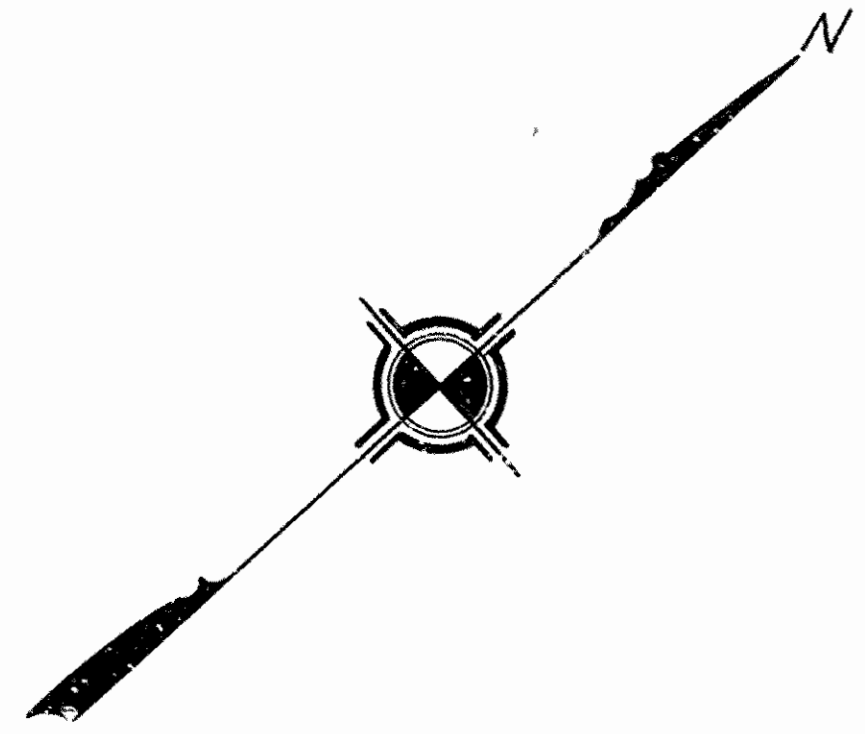
NORTH-EAST APPROACH

For details of Bents & Piling See Drug No. 1697.
 " " " 22'-0" Spans & Towers see " " 1699.
 " " " 45'-0" R.C.U.G. Spans " " 1698.

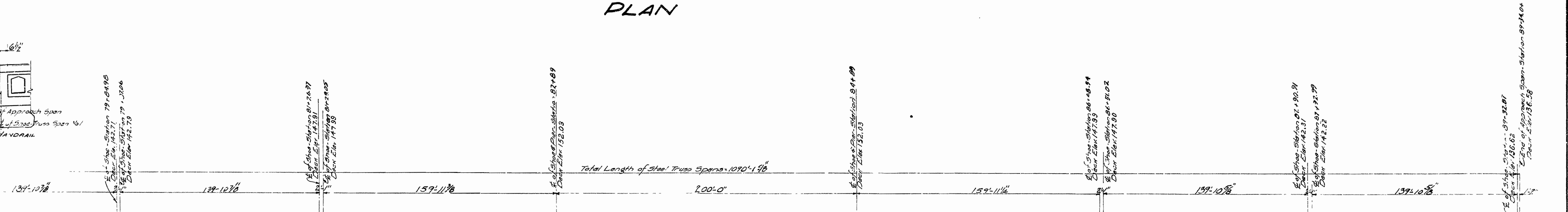
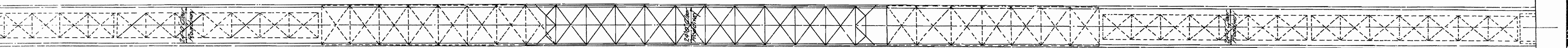
Nov. 17, 1929
 Crado Change

**LAYOUT OF CONCRETE APPROACH
 CALION BRIDGE OVER QUACHITA RIVER
 UNION - CALHOUN COUNTIES
 ROUTE 157 SEC. 2 & 3
 ARKANSAS STATE HIGHWAY DEPARTMENT
 LITTLE ROCK, ARK.**
 Drawn By: *Dunn* Date: 3-29-29
 Traced By: *Dunn* Date: 3-29-29
 Checked By: *L.R.C.* Date: 11/12/29
 Scale: 1 in. = 30 ft.
BRIDGE NO. 1230 DRAWING NO. 1395

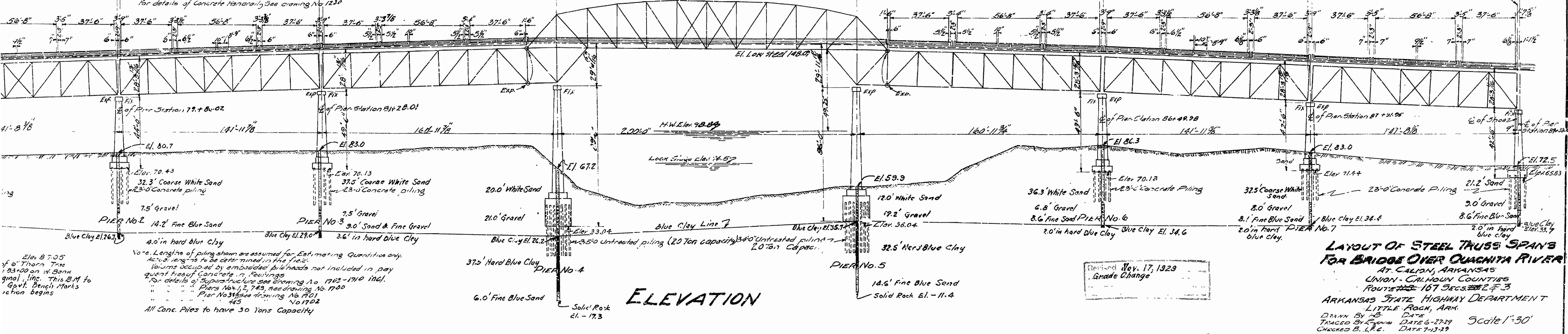
M.B. Davis
 BRIDGE ENGINEER



PLAN



ELEVATION



Note: Lengths of piling shown are assumed for estimating quantities only.
 42" x 8" stringers to be cast in place.
 Volumes occupied by embedded pileheads not included in pay quantities of concrete in foundations.
 For details of superstructure see Drawing No. 1703-1910 1661.
 Piers Nos. 1, 2, 7 & 8, see Drawing No. 1700.
 Pier No. 3, see Drawing No. 1701.
 Piers Nos. 4, 5, 6 & 7, see Drawing No. 1702.
 All Conc. Piles to have 30 Tons Capacity.

Revised Nov. 17, 1929
 Grade Change

**LAYOUT OF STEEL TRUSS SPANS
 FOR BRIDGE OVER QUACHITA RIVER**

AT CALION, ARKANSAS
 UNION - CALHOUN COUNTIES
 ROUTE 167 SECS. 2 & 3
 ARKANSAS STATE HIGHWAY DEPARTMENT
 LITTLE ROCK, ARK.
 DRAWN BY H.B. DATE 6-27-29
 TRACED BY B.L.P.C. DATE 7-13-29
BRIDGE No. 1230 DRAWING No. 1096

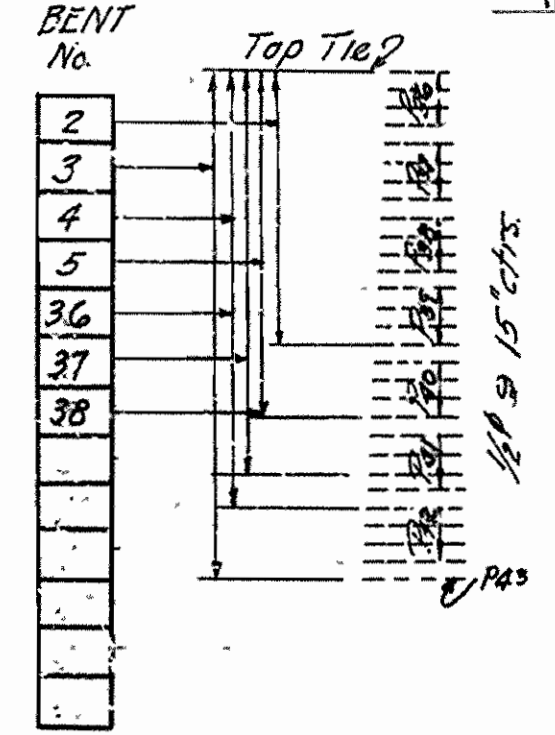
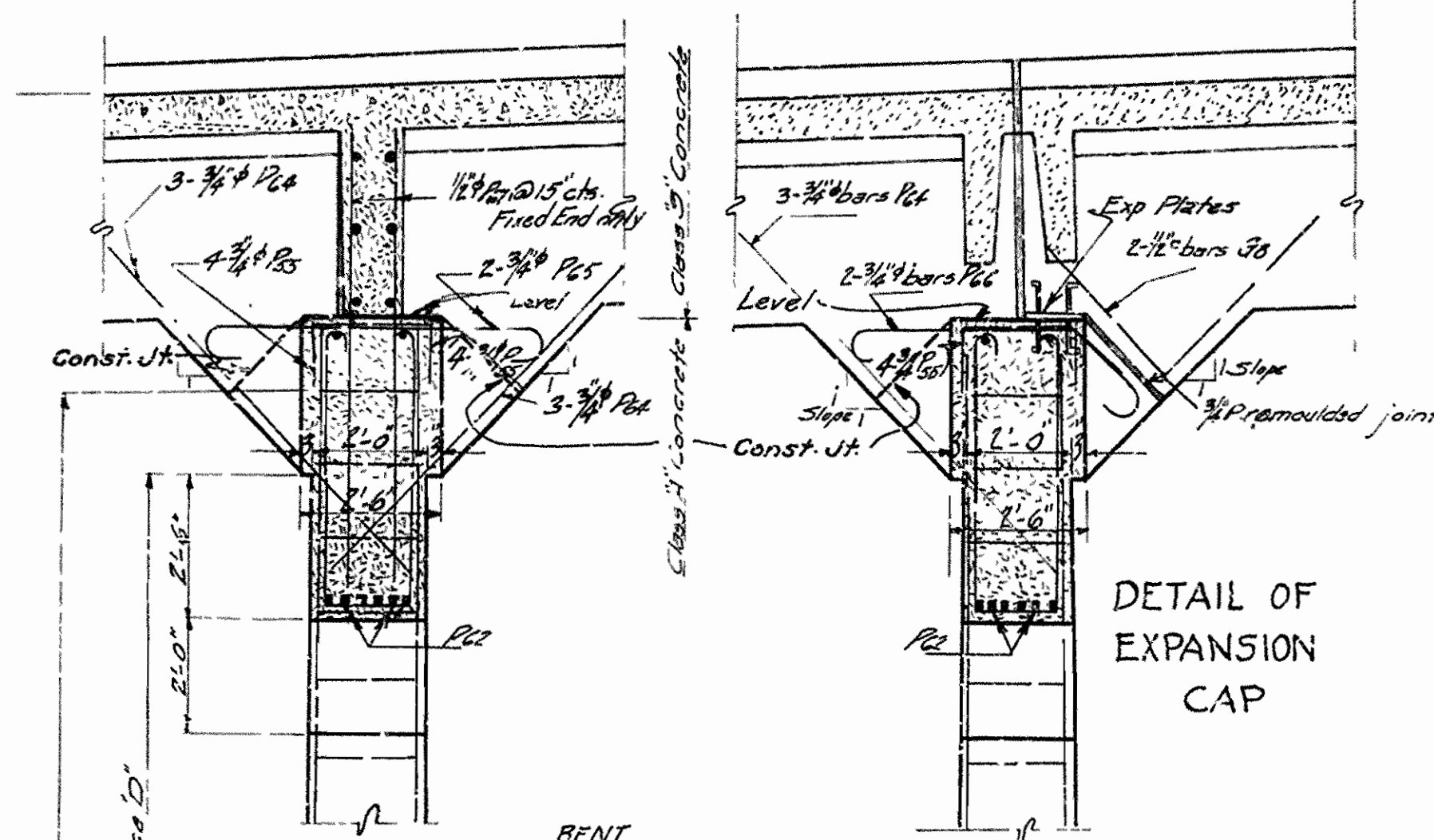
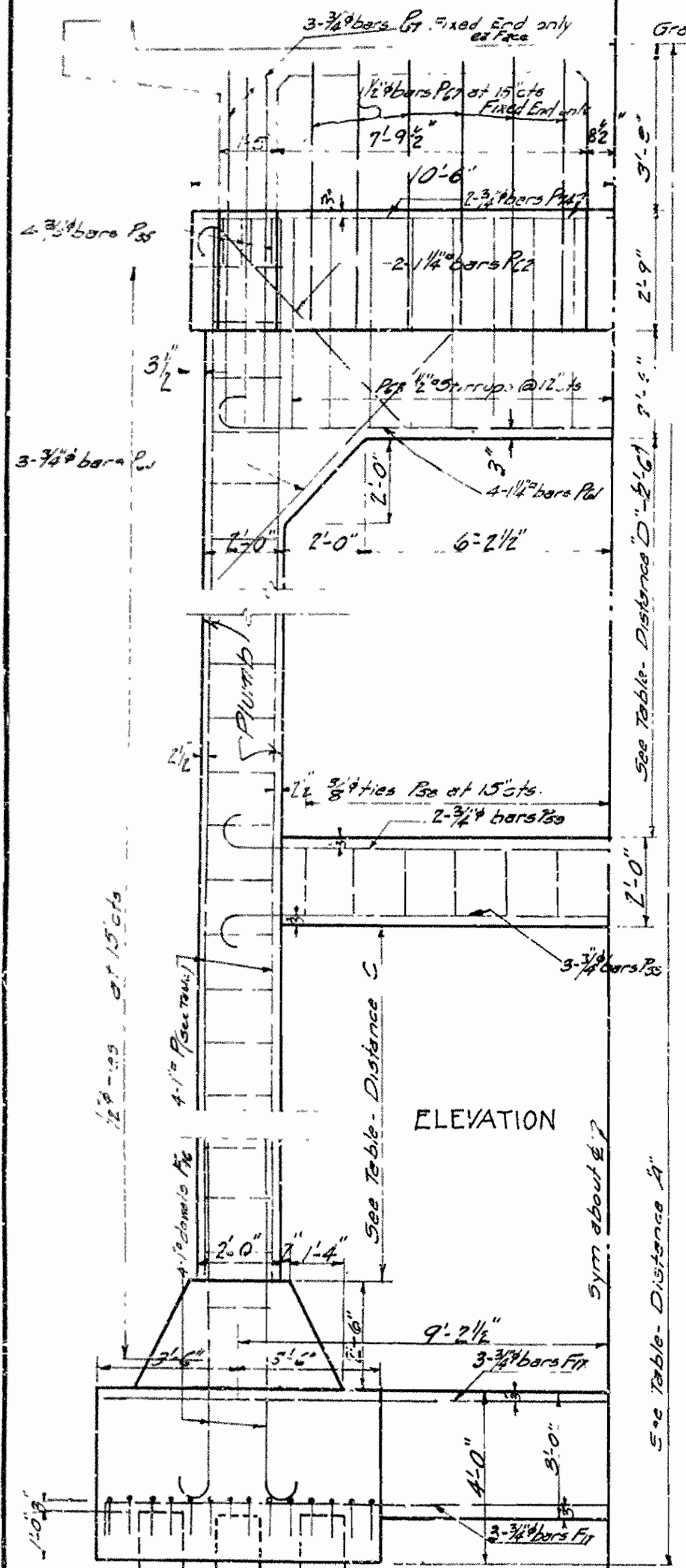
H.B. Swain
 BRIDGE ENGINEER

FISCAL YEAR	Job No	SHEET NO.	TOTAL SHEETS
1927	7108	6	20

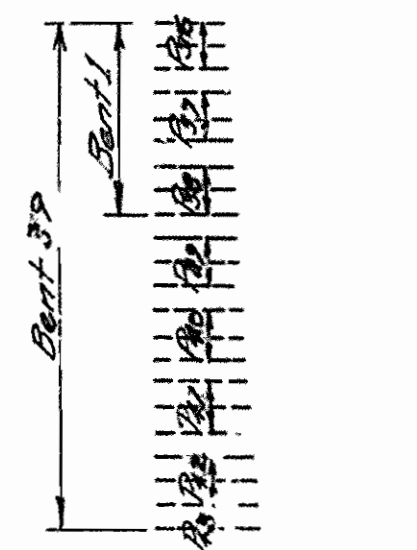
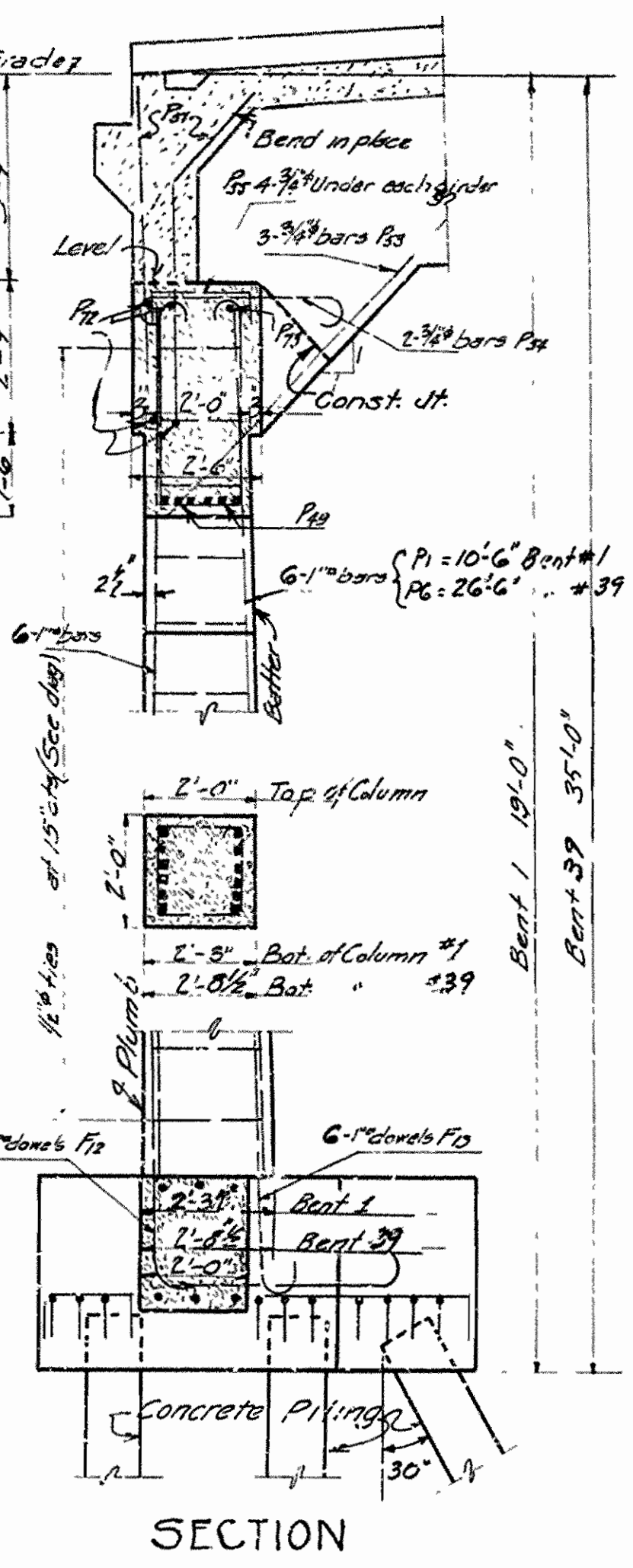
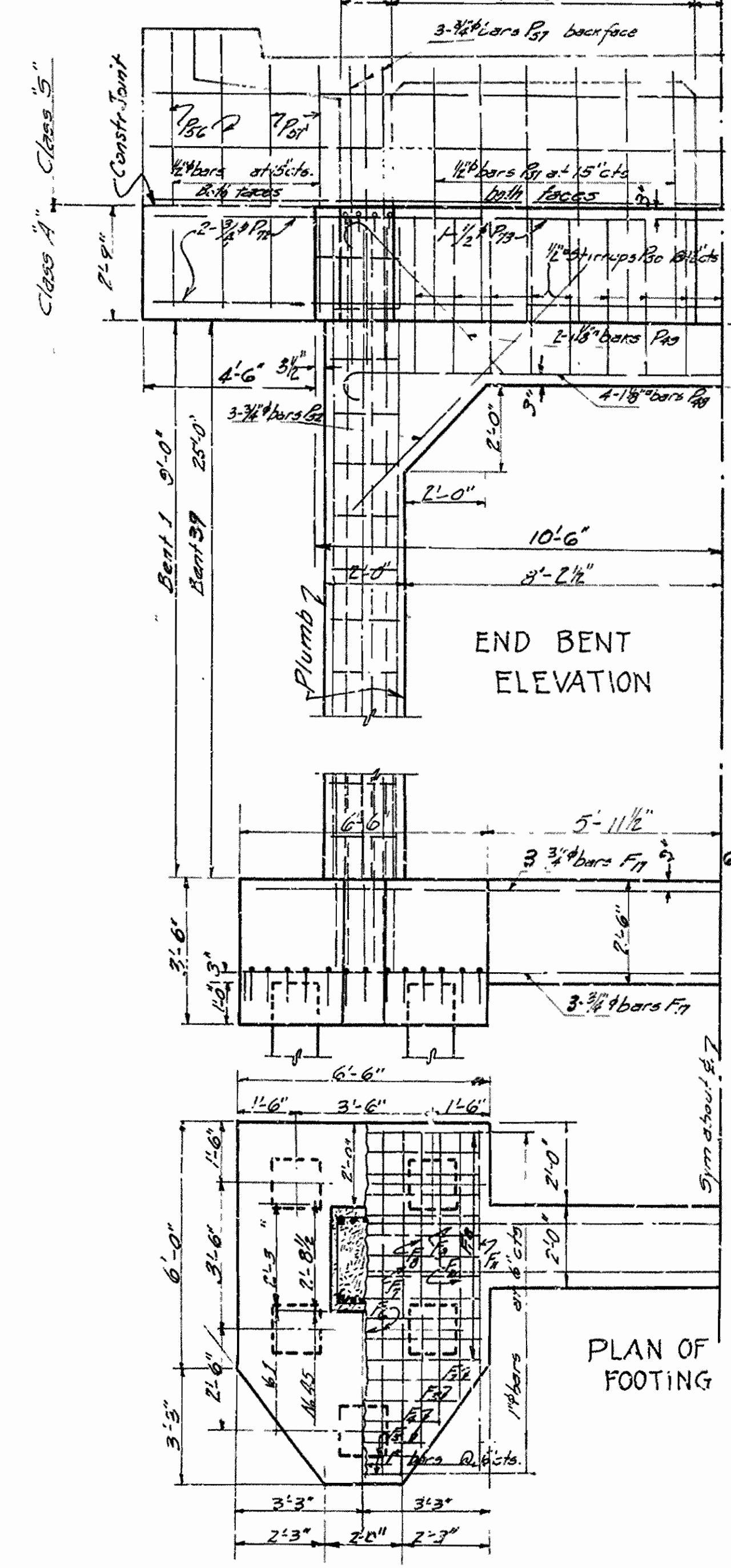
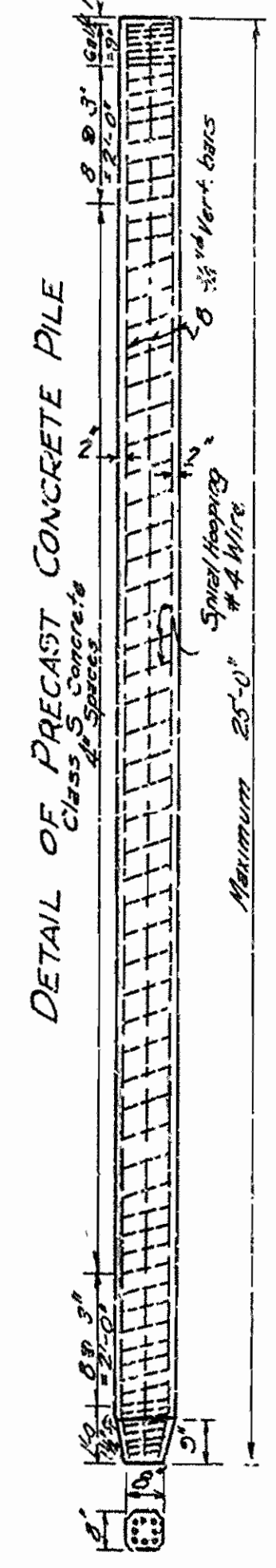
Hy. & Br. Impr. Proj.

For Detail of Superstructure see Drawing No 1698

For Details of Superstructure see drawing No 1698



SCHEDULE For Column Ties



SCHEDULE For Column Ties Bent 39

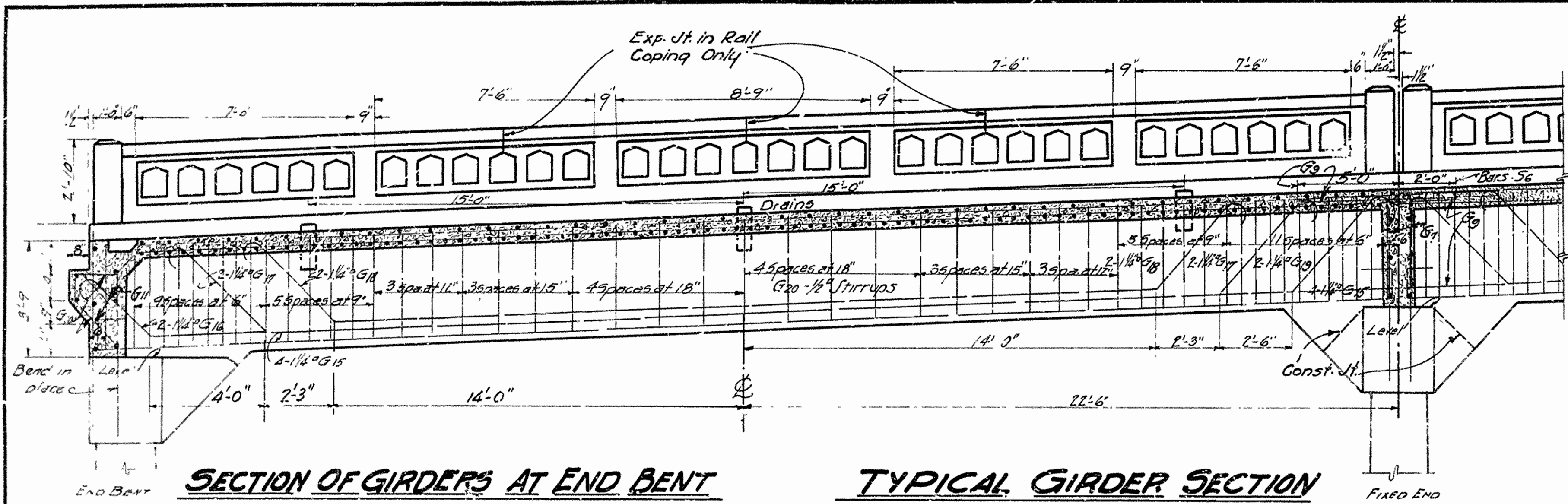
Bent No	Gr. Elev	Bot. Ftg.	A	B	C	D	Each Bent Vertical No. of Bars	Vertical Columns Bars
2	106.02	78.52	27'-6"	2'-3 3/8"			32	P2 = 16'-0"
3	107.67	63.92	43'-4"	2'-7 1/2"	17'-7"	11'-2"	58	P1 = 32'-3"
4	109.31	70.56	38'-9"	2'-6 1/2"	11'-5 3/8"	12'-3 3/8"	50	P7 = 27'-3"
5	110.96	77.46	33'-6"	2'-5 1/2"	5'-1 3/4"	13'-4 3/8"	40	P3 = 22'-0"
36	119.07	79.07	40'-0"	2'-6 3/4"	10'-4"	14'-8"	50	P9 = 28'-6"
37	117.06	80.06	37'-0"	2'-6"	8'-10 1/2"	13'-1 1/2"	46	P5 = 25'-6"
38	115.04	81.04	34'-0"	2'-5 1/4"	7'-5 1/2"	11'-6 1/2"	40	P4 = 22'-6"

NOTE:-
For general notes see Drawing 1695
Bar P35 omitted
For Bending Diagrams see Drug. No. 1710

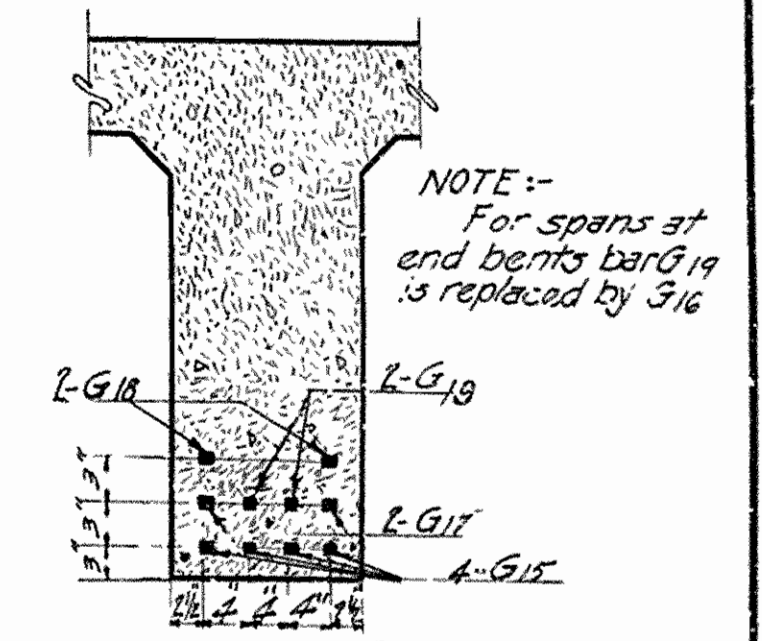
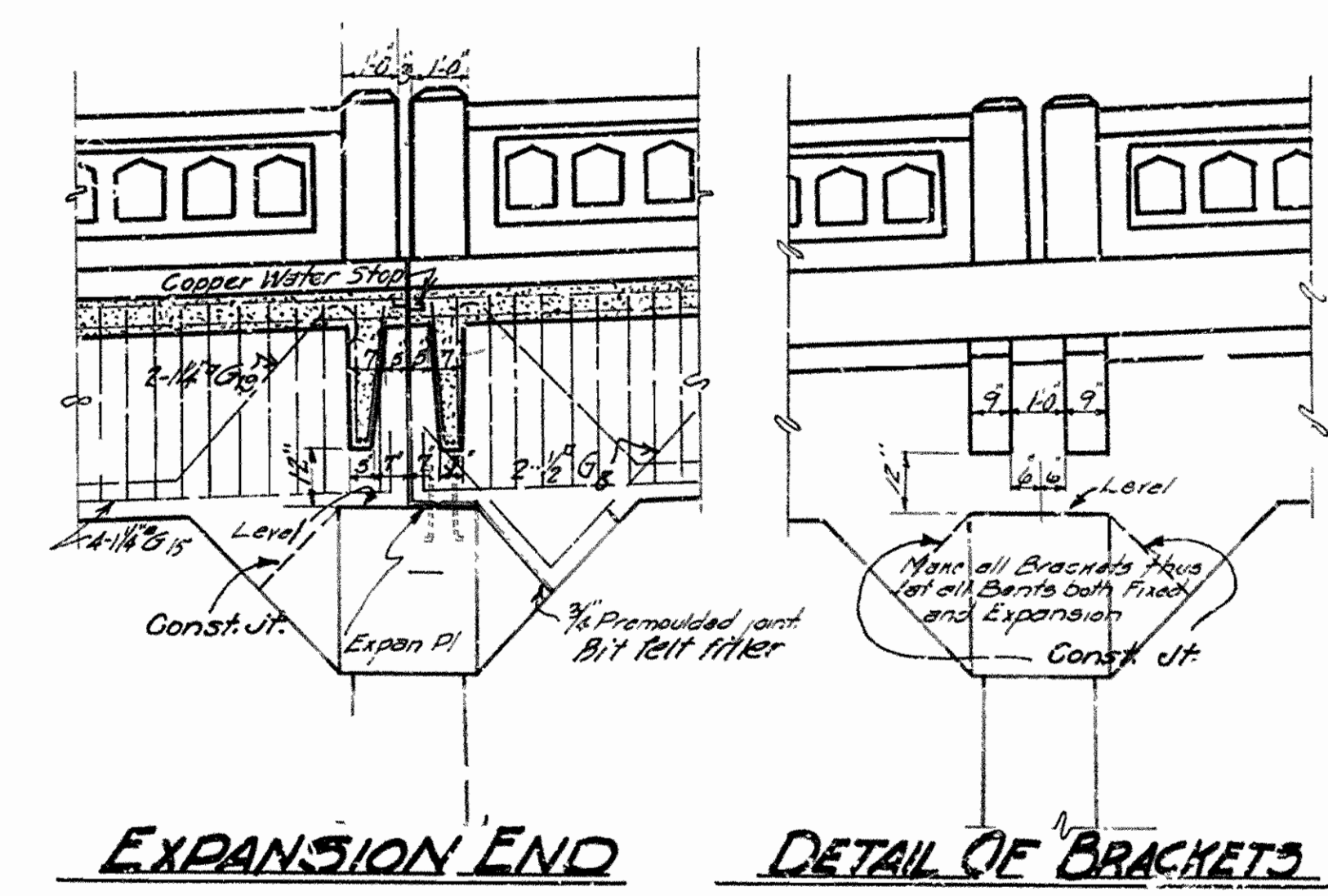
DETAILS OF END BENTS AND INTERMEDIATE BENTS & CONC. PILING FOR BRIDGE OVER OUAQUITA RIVER CALHOUN-UNION COUNTIES
ROUTE #16 SEC. #2 P. 3
ARKANSAS STATE HIGHWAY DEPARTMENT
LITTLE ROCK, ARK.

Drawn By: *CAD* Date: *6-12-22*
Traced By: *AS* Date: *6-12-22*
Checked By: *APC* Date: *8/10/22*
Scale: 3/4" = 1' ft.
BRIDGE ENGINEER
BRIDGE NO. 1230 DRAWING NO. 1697

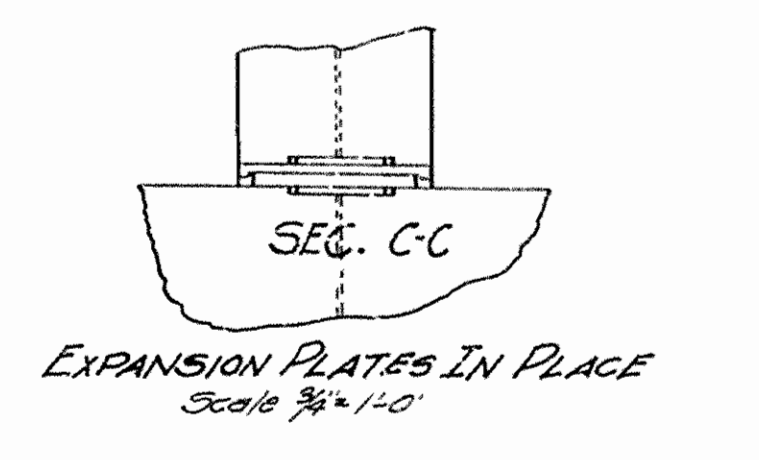
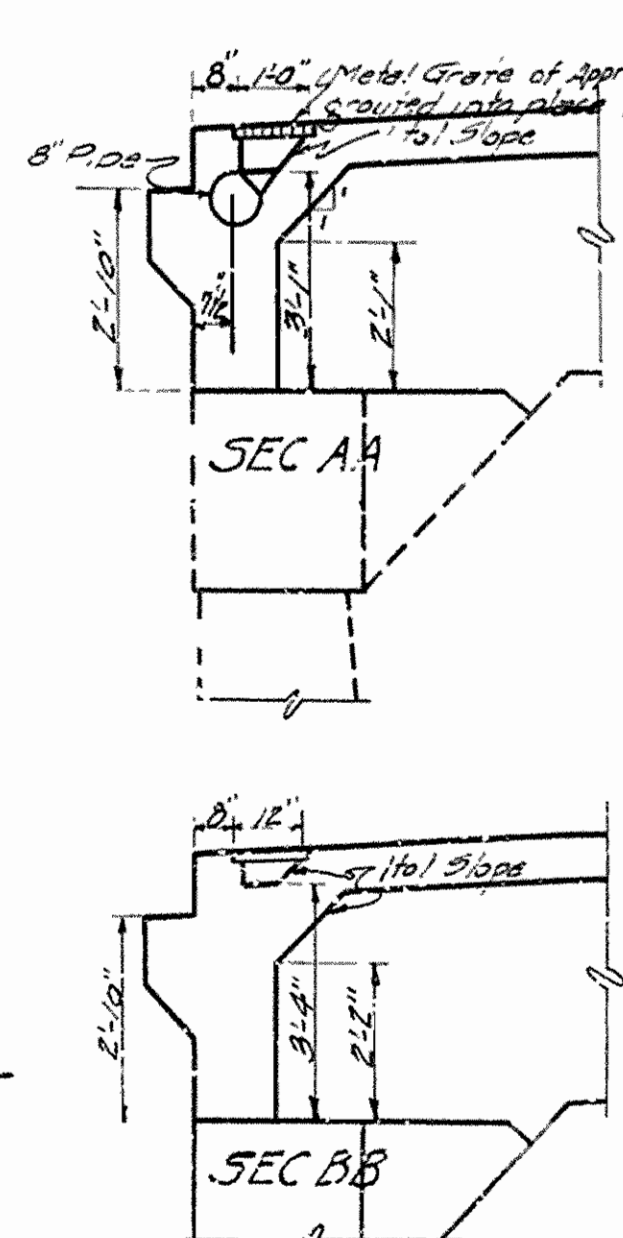
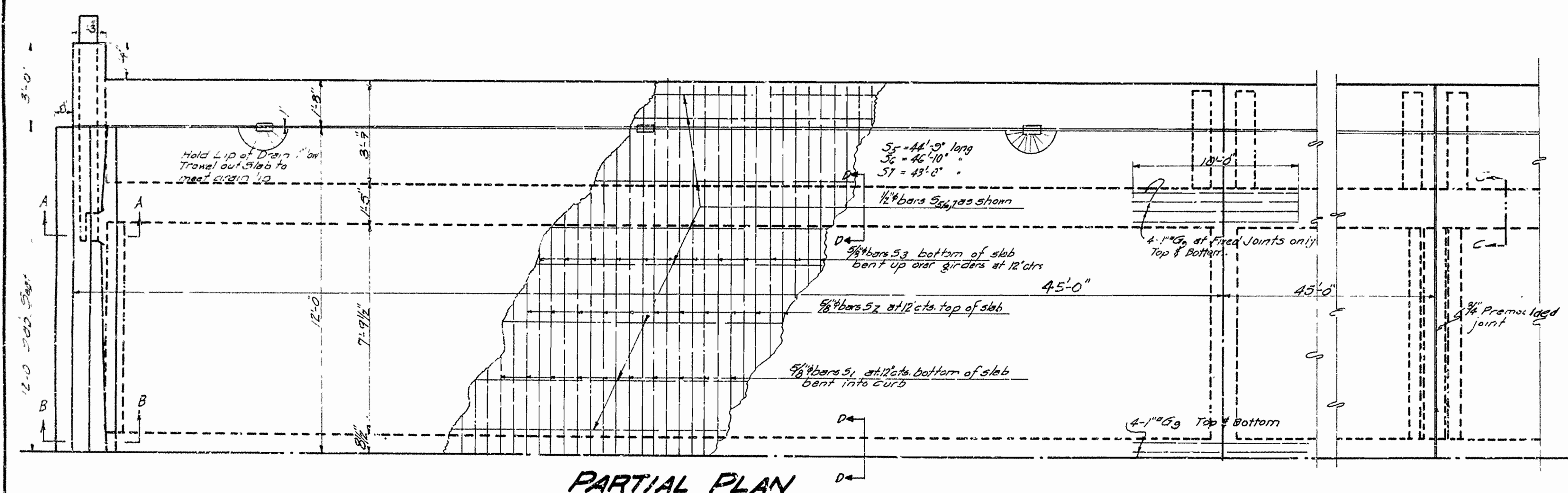
NOTE:- Any variation in actual height of column shall be taken up in 'C'



NOTE: - For detail of connection at Steel Span sec drawing No. 1704

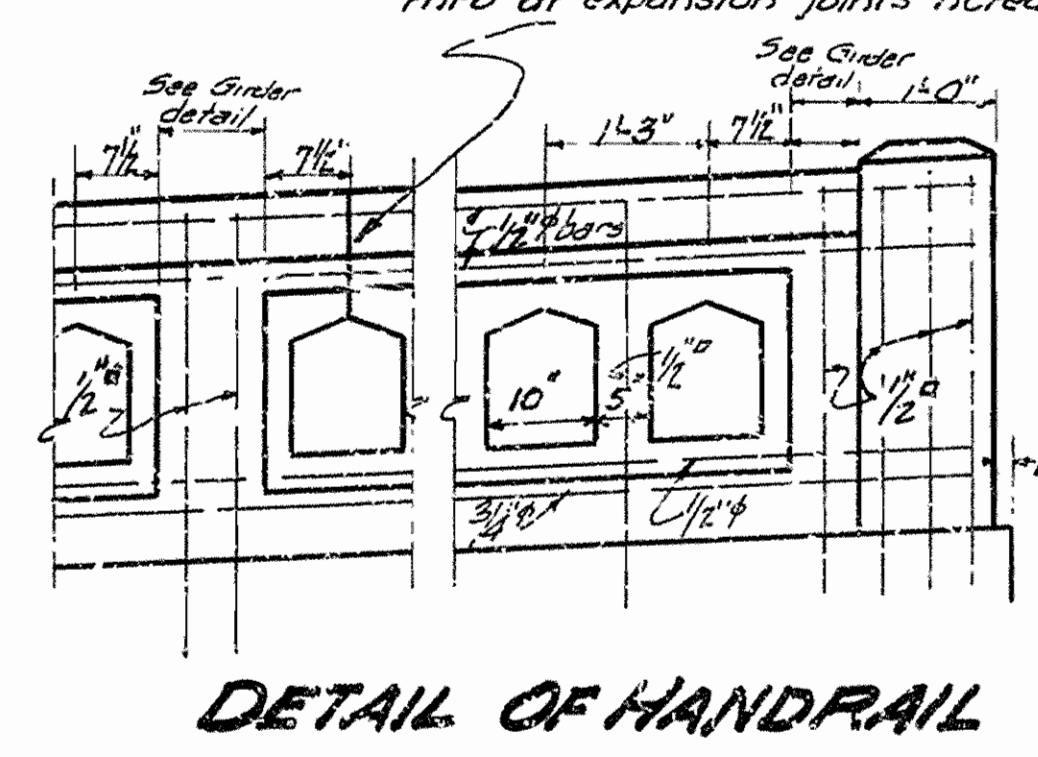
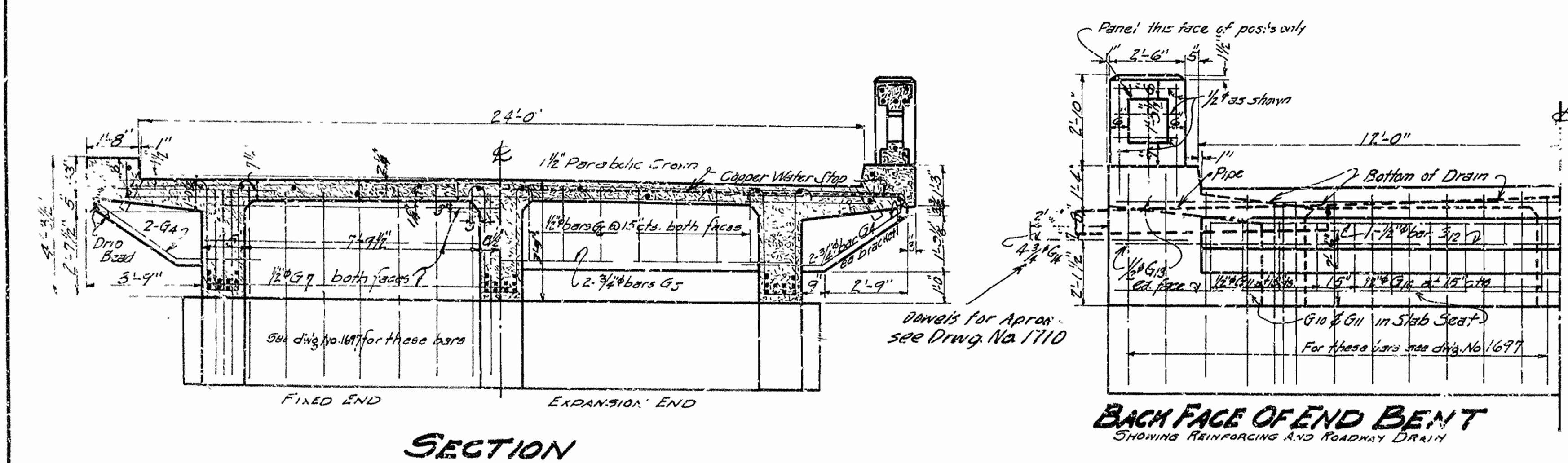
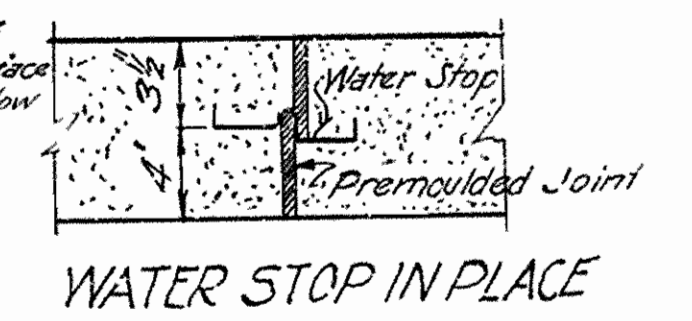


NOTE: - For spans at end bents bar #19 is replaced by #16



Note: Expansion Plates shall be placed level and Anchor Bolts held in place so that tops are flush with top of plate

NOTE - Bend ends of stop down until it reaches forms. Place drip bead inside of ends of stop to prevent surface stain on concrete below

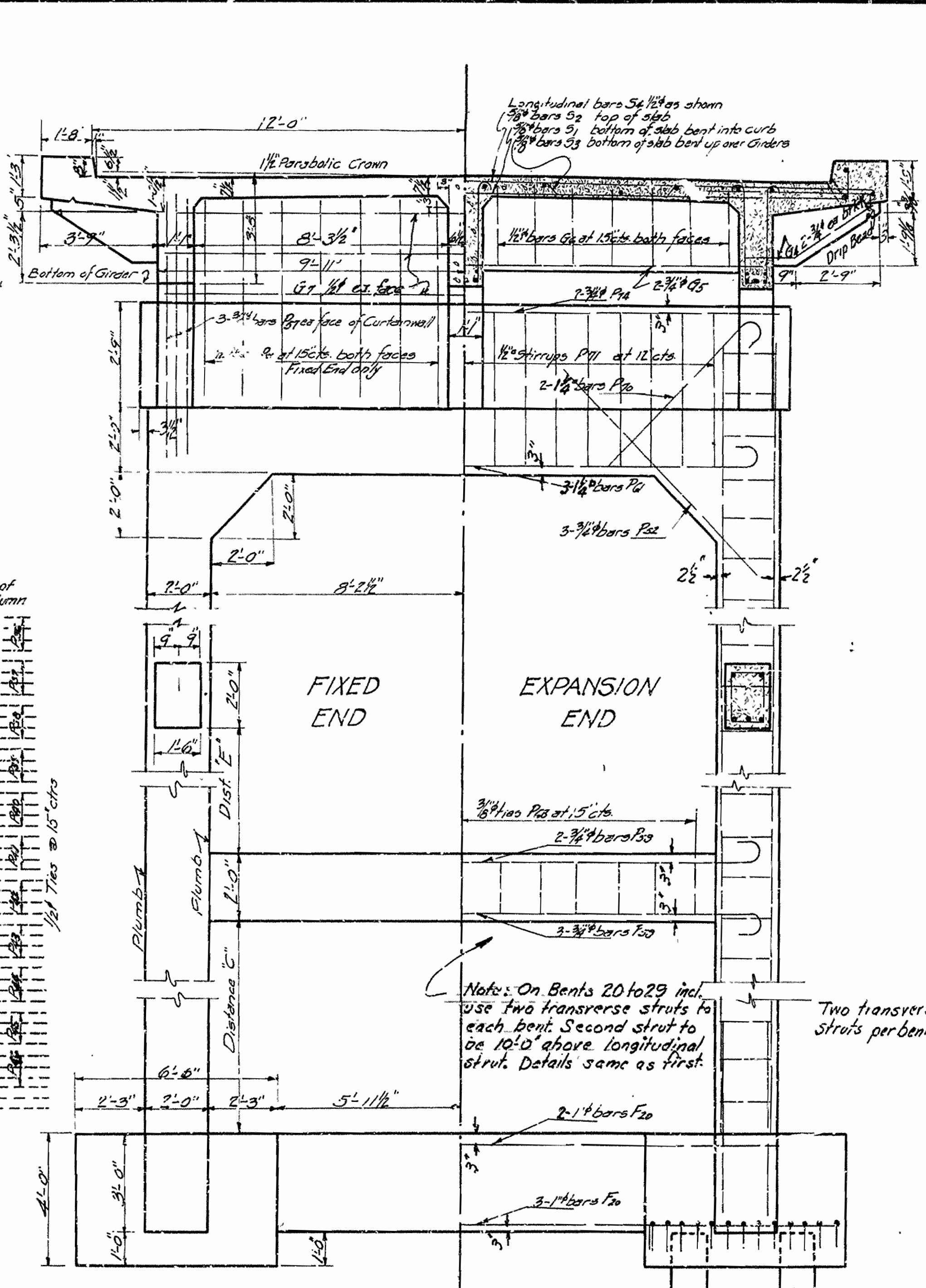
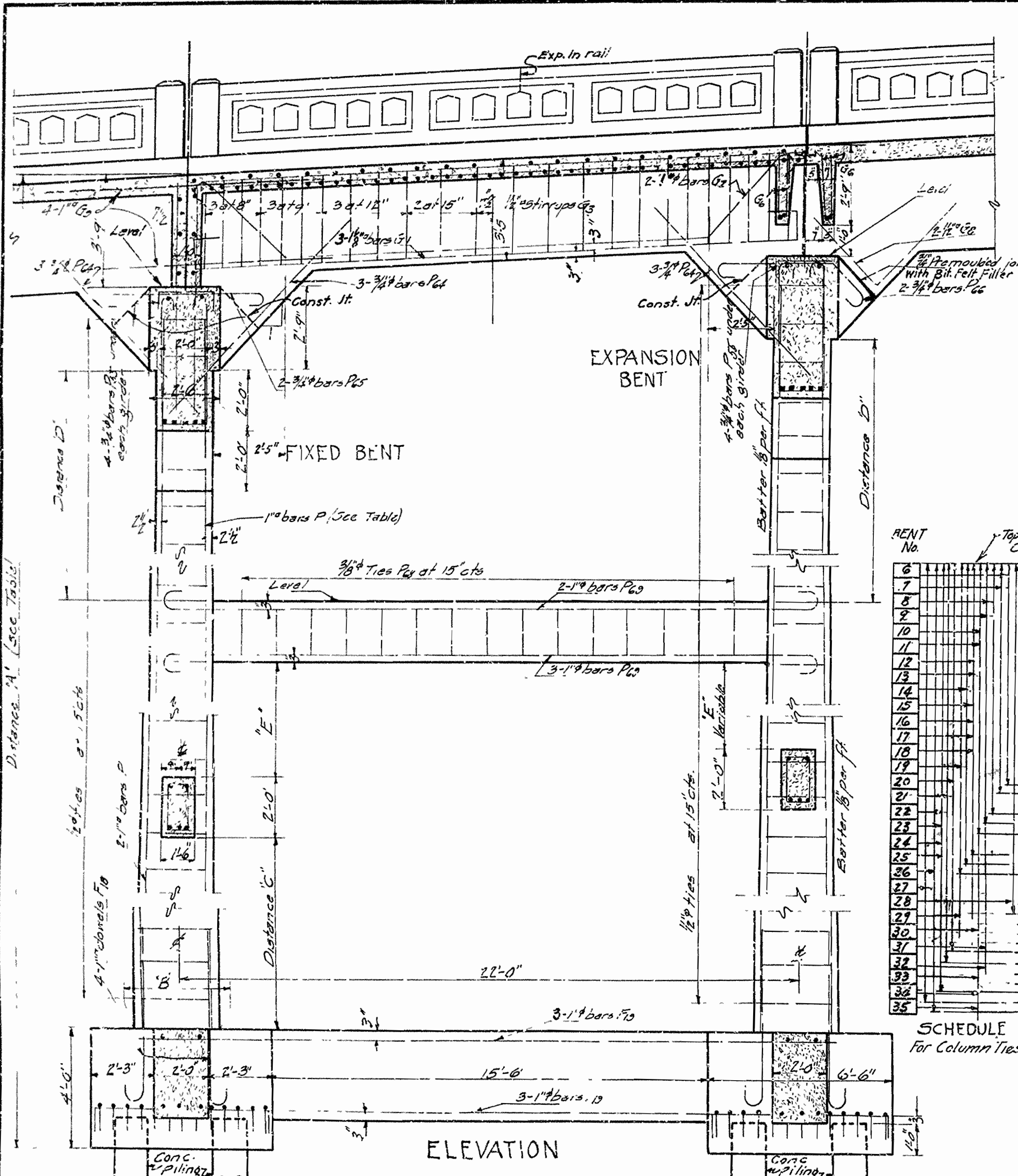


Note: All vertical bars shall be hooked at lower end. All vertical lines shall be plumb. All Handrail shall be cast in place. Concrete to be poured in place.

DETAILS OF 45' R.C.D GIRDER BRIDGE OVER OUACHITA RIVER
 CALHOUN-UNION COUNTIES
 ROUTE 167 SEC. 2 & 3

ARKANSAS STATE HIGHWAY DEPARTMENT
 LITTLE ROCK, ARK.
 Drawn By: C.A.D. Date: 12-29
 Traced By: J.L.C. Date: 1-12-29
 Checked By: J.L.C. Date: 1-12-29
 BRIDGE NO. 1230 DRAWING NO. 1698

N.B. Harris
 BRIDGE ENGINEER



SCHEDULE For Column Ties

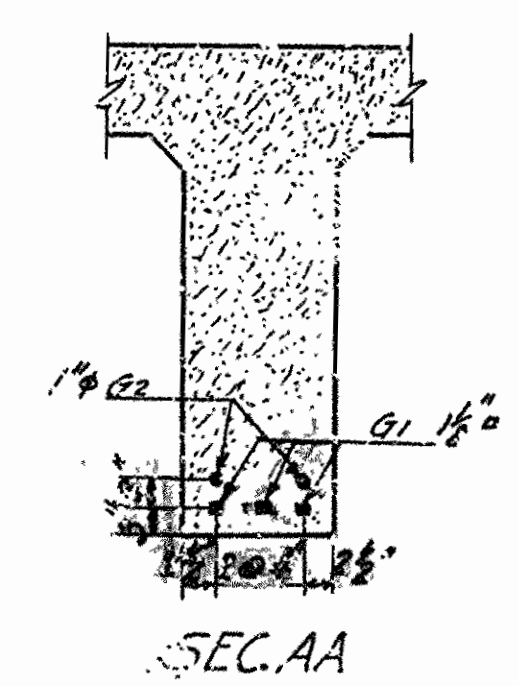
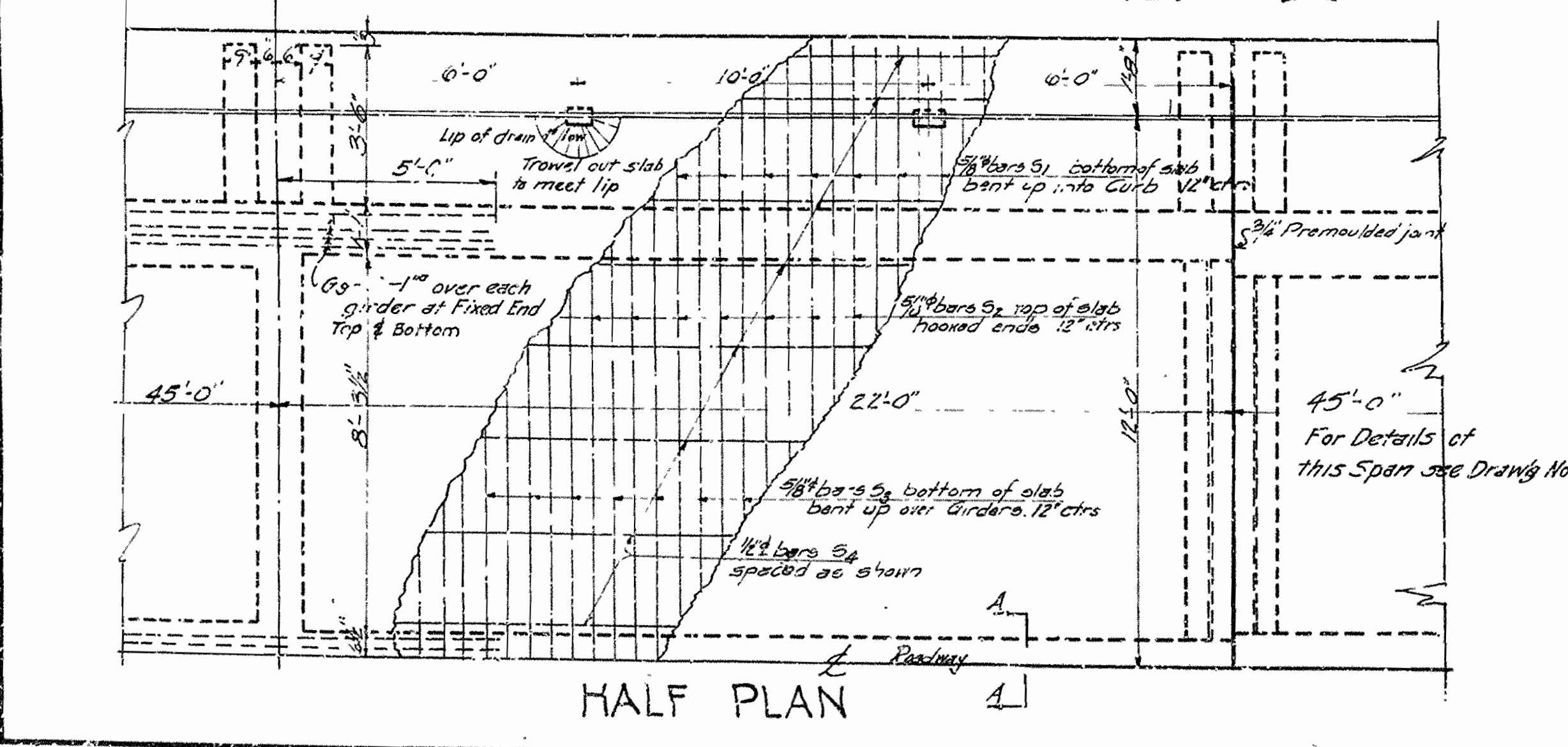
BENT No.	Grade	Elev.	A	B	C	D	E	VERTICAL COLUMN BARS
6	112.61	75.61	37'-0"	2'-6 3/8"	10'-2"	10'-10"	1'-6"	46 P8 = 28'-0"
7	113.41	74.91	38'-6"	2'-7"	10'-10 1/2"	11'-7 1/2"	"	48 P10 = 29'-6"
8	115.06	73.56	41'-6"	2'-7 1/2"	13'-0 1/2"	12'-1 1/2"	1'-10"	52 P12 = 32'-6"
9	115.87	72.87	43'-0"	2'-8 1/2"	13'-6 3/8"	12'-1 1/2"	"	54 P14 = 34'-0"
10	117.51	74.01	43'-6"	2'-8 3/4"	13'-5"	13'-5"	2'-2"	56 P16 = 34'-6"
11	118.32	74.01	44'-3"	2'-8 3/4"	13'-4 1/2"	14'-2 1/2"	"	56 P18 = 35'-3"
12	119.96	73.96	46'-0"	2'-8 3/4"	14'-3 1/2"	14'-8 3/4"	2'-6"	60 P19 = 37'-0"
13	120.77	74.02	46'-9"	2'-9"	14'-2 1/2"	15'-6"	"	60 P22 = 39'-9"
14	122.42	75.42	47'-0"	2'-9"	13'-7 1/2"	16'-0"	2'-10"	62 P23 = 38'-0"
15	123.22	76.47	46'-9"	2'-9"	12'-7"	16'-10 1/2"	"	60 P22 = 37'-9"
16	124.87	78.87	46'-0"	2'-8 3/4"	11'-0"	17'-6"	3'-2"	60 P19 = 37'-0"
17	125.67	79.42	46'-3"	2'-8 3/4"	10'-5 1/2"	18'-1 1/2"	"	60 P20 = 37'-3"
18	127.32	80.82	46'-6"	2'-9"	9'-10 1/2"	18'-7 1/2"	3'-6"	60 P21 = 37'-6"
19	128.13	78.88	49'-3"	2'-9"	11'-9 3/4"	19'-5 3/4"	"	64 P25 = 40'-3"
20	129.77	71.02	58'-9"	3'-0"	16'-3 3/4"	19'-11 1/2"	8'-0"	80 P27 = 49'-9"
21	130.58	70.58	60'-0"	3'-0 3/4"	16'-9"	20'-9"	"	82 P28 = 51'-0"
22	132.23	68.19	63'-3"	3'-1 1/2"	19'-6"	21'-3"	"	88 P29 = 54'-3"
23	133.03	67.53	62'-6"	3'-1 1/2"	18'-11 1/2"	22'-0 1/2"	"	88 P30 = 54'-6"
24	134.68	70.43	64'-3"	3'-1 1/2"	19'-2 1/2"	22'-6 1/2"	"	88 P32 = 55'-3"
25	135.48	71.48	64'-0"	3'-1 1/2"	18'-2"	23'-6"	"	88 P31 = 55'-0"
26	133.49	66.99	66'-6"	3'-2"	26'-0"	18'-0"	"	92 P34 = 57'-6"
27	132.61	67.36	65'-3"	3'-1 1/2"	25'-7 1/2"	17'-1 1/2"	"	90 P33 = 56'-3"
28	130.80	76.55	54'-3"	2'-10 3/8"	14'-5 1/2"	17'-3 3/4"	"	72 P26 = 45'-3"
29	127.89	81.39	48'-6"	2'-9 1/2"	9'-7 1/2"	16'-4 3/4"	"	64 P24 = 39'-6"
30	128.01	84.51	43'-6"	2'-8 3/4"	9'-3 1/2"	16'-6 1/2"	3'-2"	56 P16 = 34'-6"
31	127.06	84.06	43'-0"	2'-8 3/4"	9'-9"	15'-7"	"	54 P14 = 34'-0"
32	125.11	83.11	42'-0"	2'-7 3/4"	10'-0 1/2"	15'-7 1/2"	1'-10"	54 P13 = 33'-0"
33	124.15	80.38	43'-9"	2'-8 3/4"	12'-9"	14'-8"	"	56 P17 = 34'-9"
34	122.10	78.60	43'-6"	2'-8 3/4"	13'-10 1/2"	14'-7 1/2"	0'-6"	56 P16 = 34'-6"
35	121.11	77.66	43'-3"	2'-8 3/4"	14'-7 1/2"	13'-7 3/4"	"	56 P15 = 34'-3"

Notes: On Bents 20 to 29 incl. use two transverse struts to each bent. Second strut to be 10'-0" above longitudinal strut. Details same as first.

Two transverse struts per bent.

Bars P35 Omitted

Note: Any Variation in actual height of Column shall be taken up in "C"



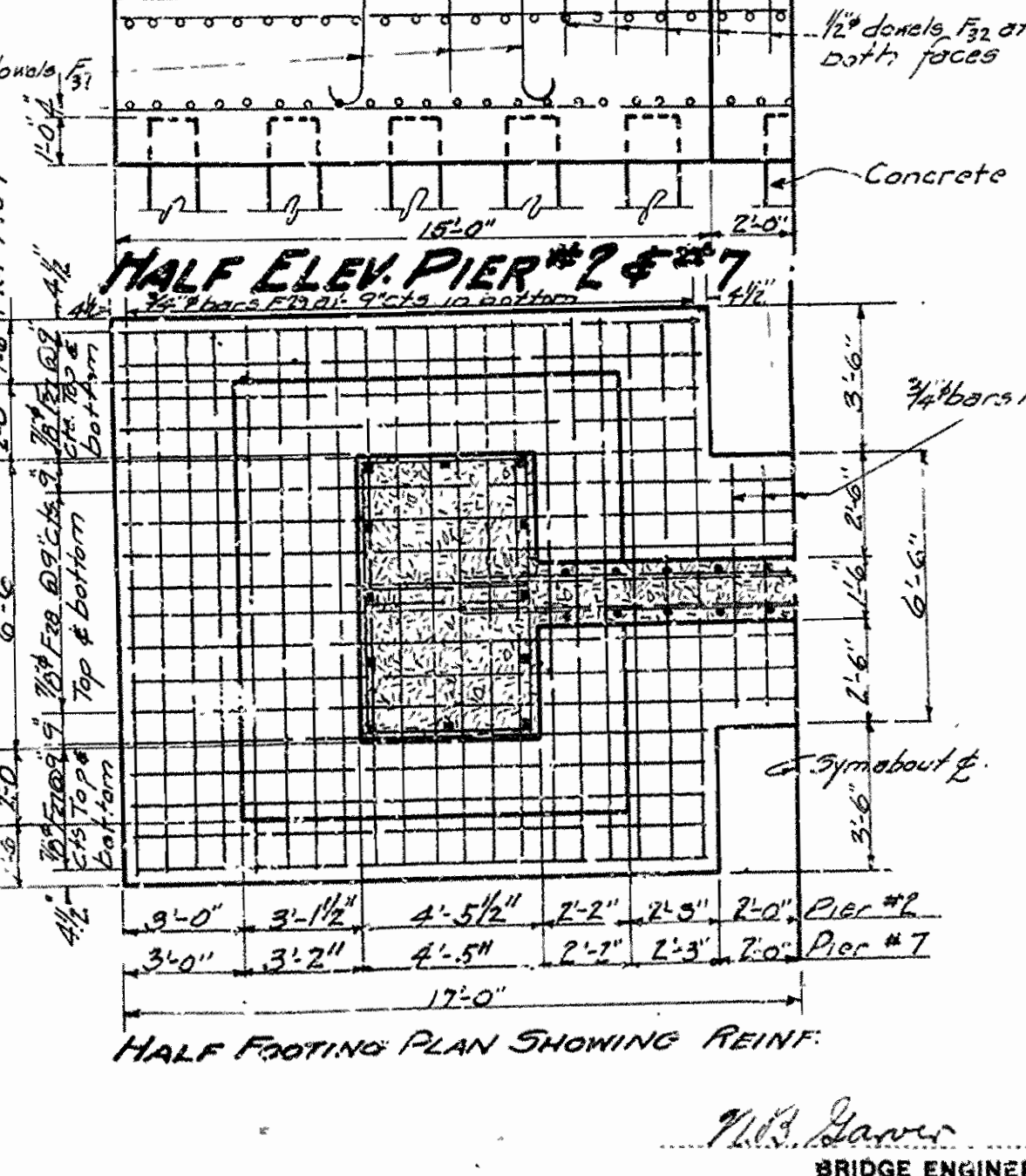
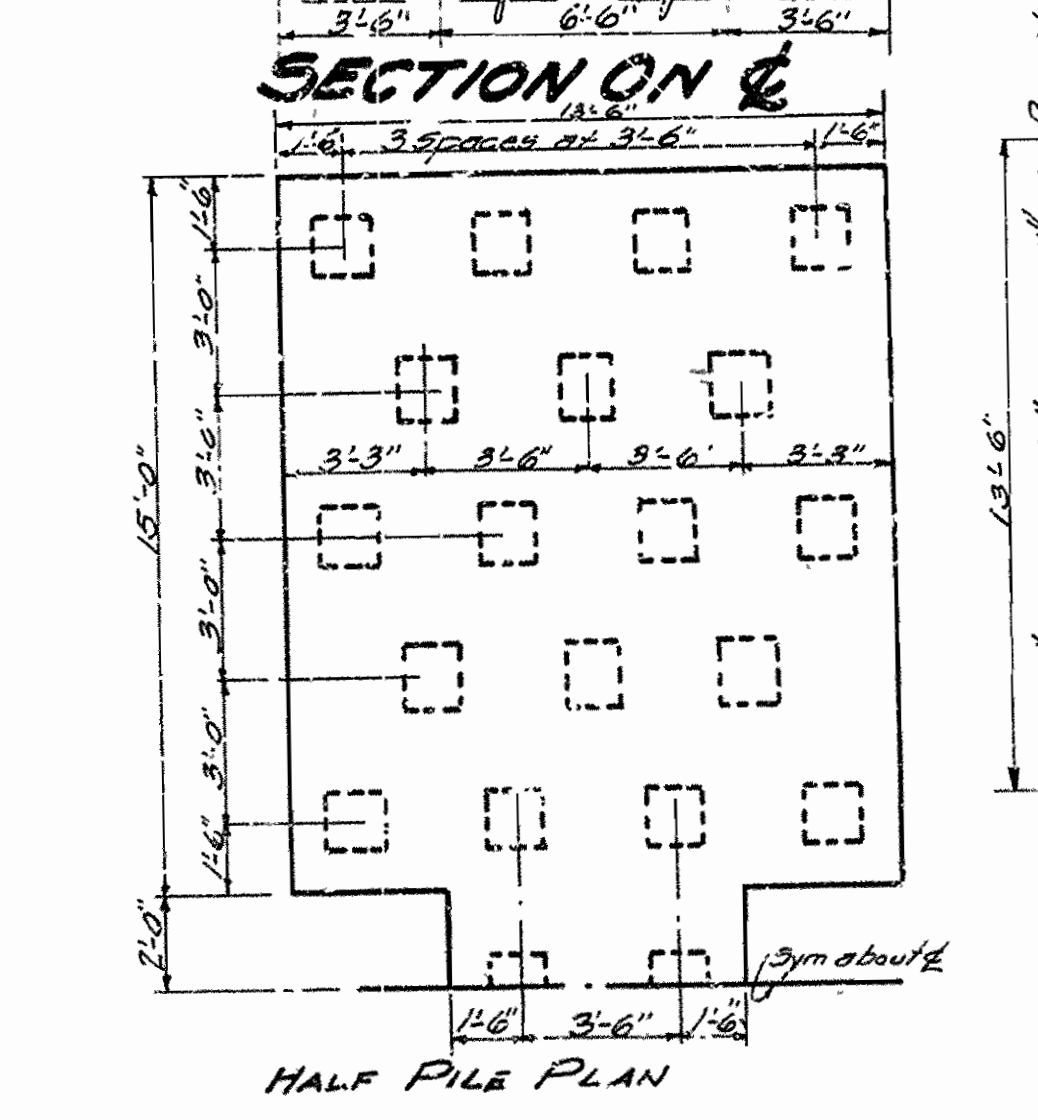
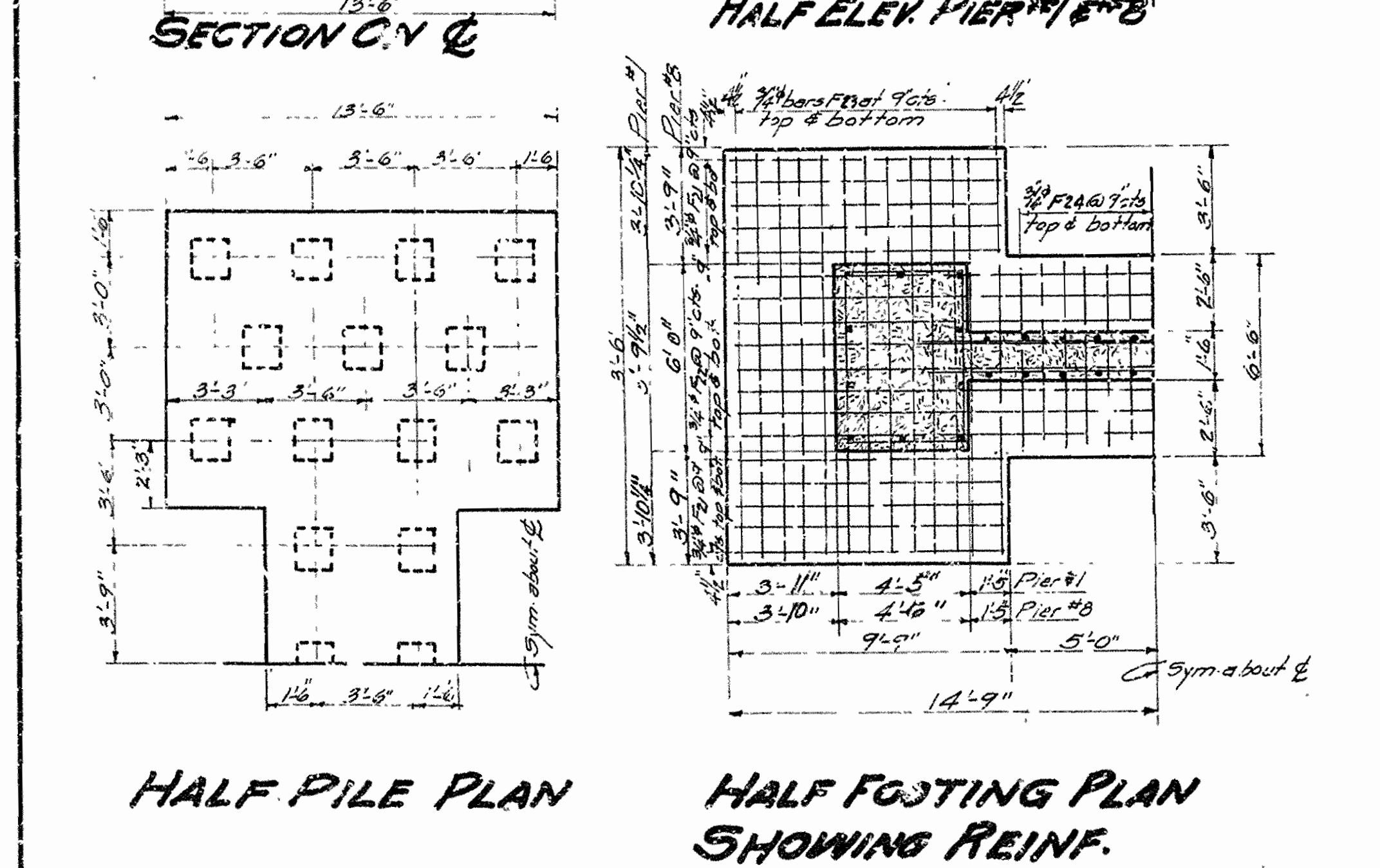
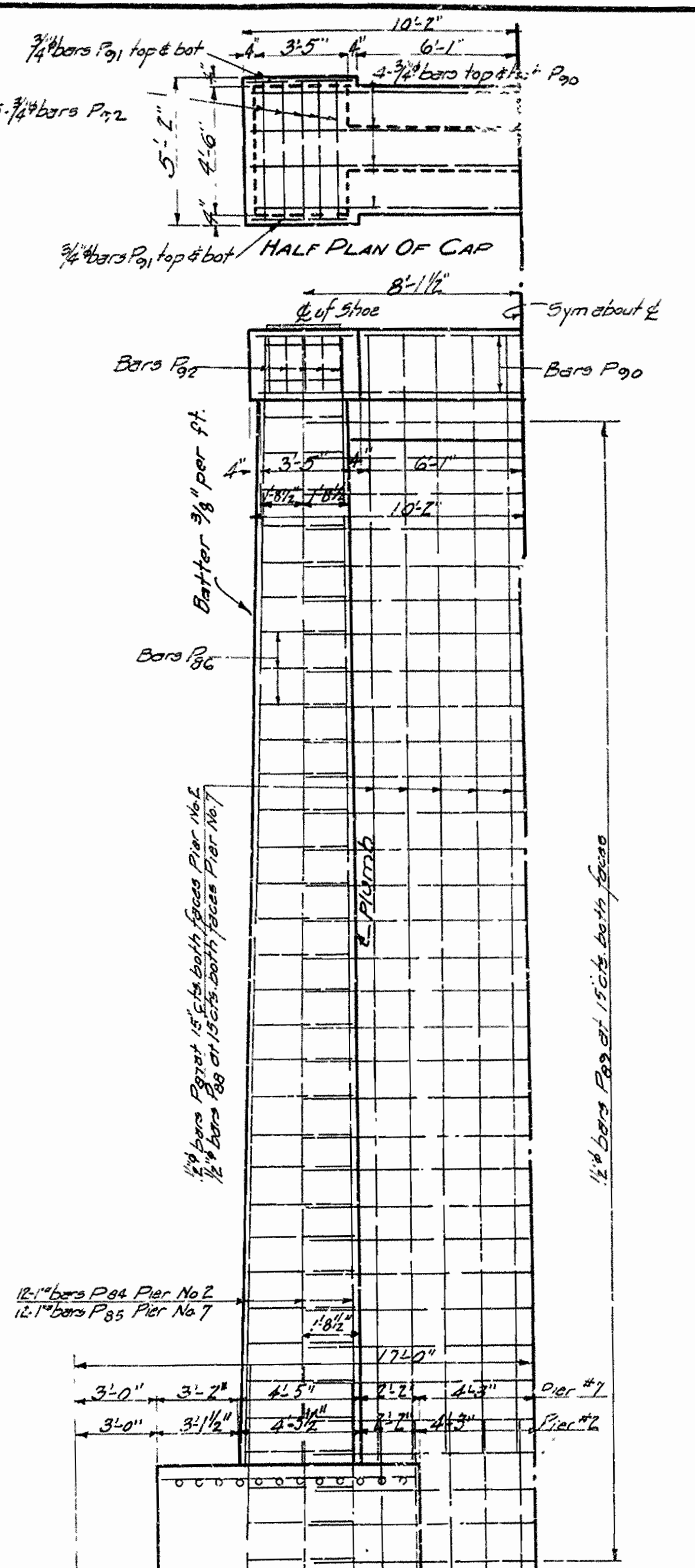
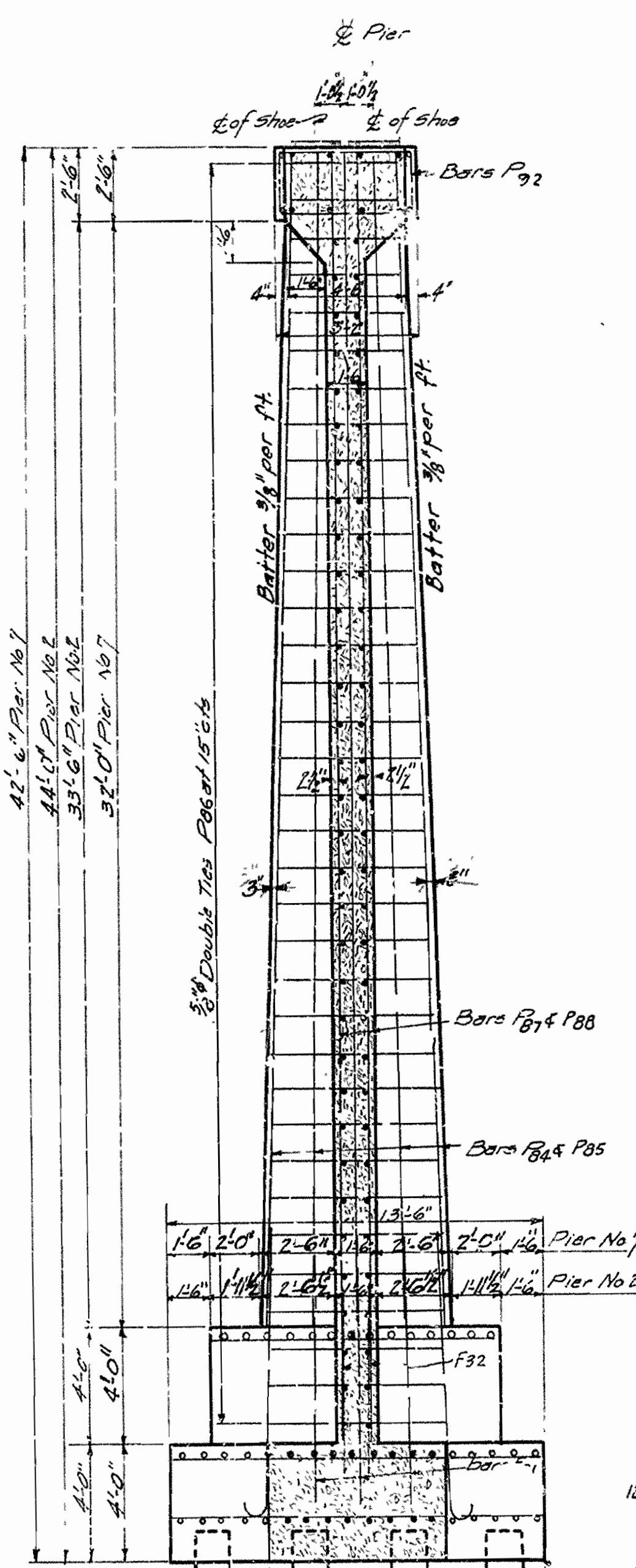
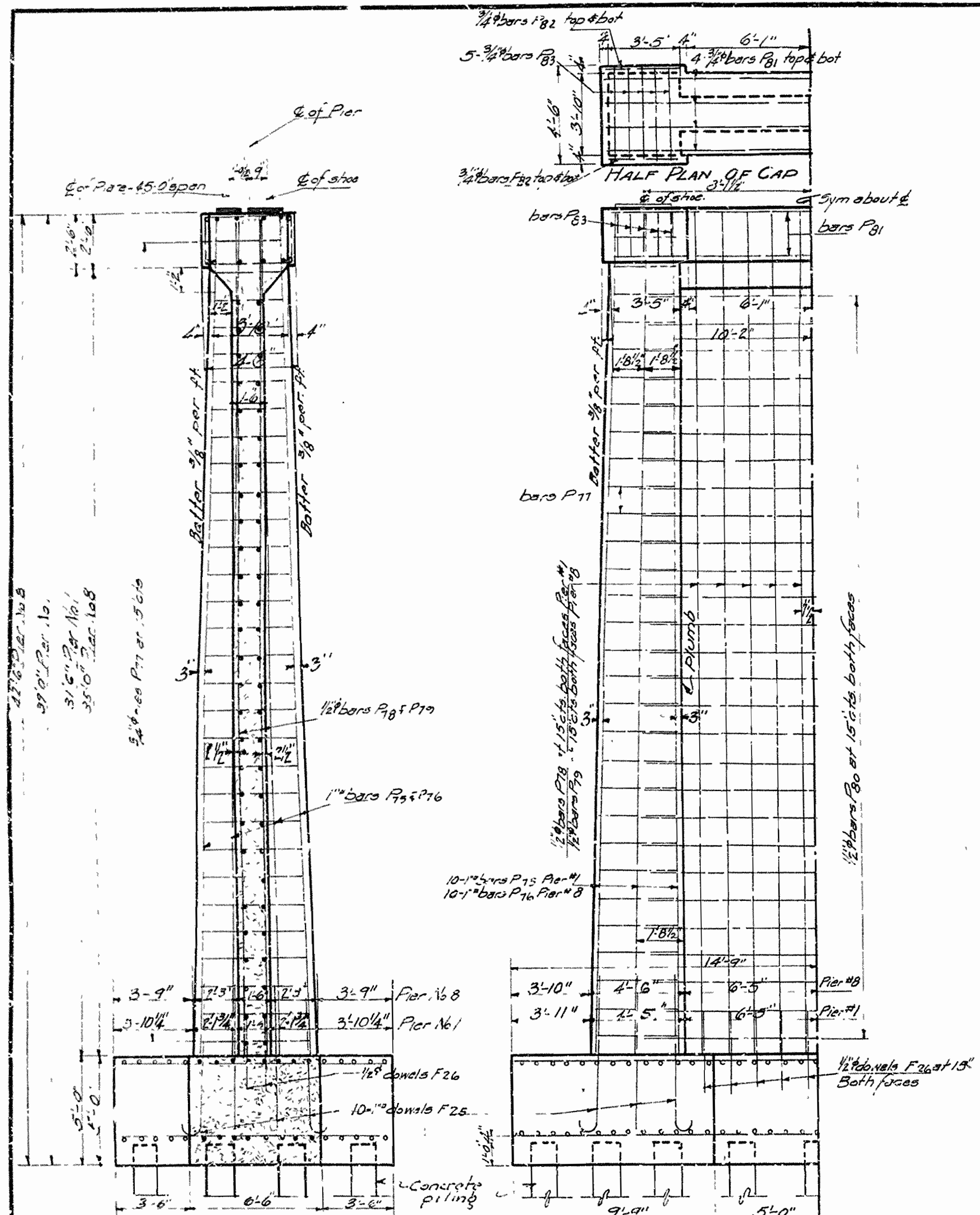
DETAILS OF 22'-0" SPAN & TOWER
 QUACHITA RIVER
 CALHOUN - UNION COUNTIES

167
 ROUTE 167 SEC. 2 & 3
 ARKANSAS STATE HIGHWAY DEPARTMENT
 LITTLE ROCK, ARK.
 Drawn By: CAD Date: 1/19/27
 Traced By: J.P.R. Date: 8/19/27
 Checked By: J.P.R. Date: 8/19/27
 Scale: 3/8" = 1' ft.
 Bridge No. 1230
 DRAWING No. 1699

M.B. Carter
 BRIDGE ENGINEER

FISCAL YEAR	1929	Job No	7108	SHEET NO	9	TOTAL SHEETS	100
Hy. & Cr. Impl. Proj.							

For details of Superstructure, see dwgs No. 1703 & 1704



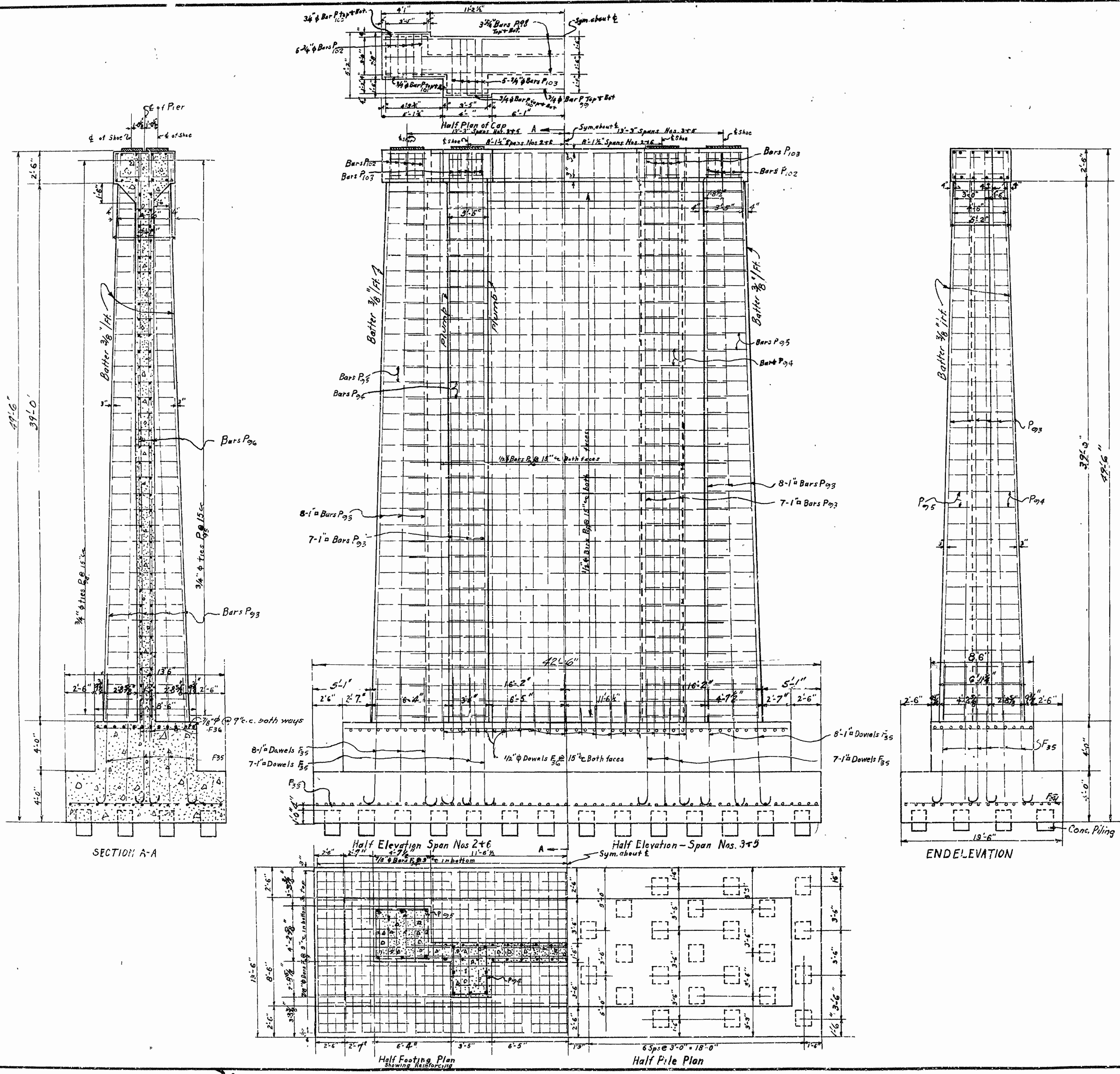
Bars this sheet: P21-P25 incl; P95-P92 incl.
 For Bending Diagrams, see dwg. No. 1710
 "General Notes" 1695

DETAILS OF PIERS 1, 2, 7 & 8
FOR BRIDGE OVER QUACHITA RIVER
AT CALION, ARKANSAS
UNION-CALHOUN COUNTIES
 ROUTE 15 SEC. 24 T. 3
ARKANSAS STATE HIGHWAY DEPARTMENT
 LITTLE ROCK, ARK.

Drawn By: *LD* Date: 6-14-29
 Traced By: *LD* Date: 6-19-29
 Checked By: *LD* Date: 8-13-29

Scale: 1/4" = 1 ft.
 BRIDGE NO. 1230 DRAWING NO. 1700

W. S. Jones
BRIDGE ENGINEER



Bars on this sheet: F33-F36 incl.; P93-P103 incl.
 For Bending Diagrams, See Dwg No. 1710
 " General Notes " " " " 1695

**DETAILS OF
 PIERS Nos 3 & 6**
 FOR BRIDGE OVER OUACHITA RIVER
 AT CALION, ARK.
 UNION-CALHOUN CO.
 ROUTE 167 SEC. 2 & 3

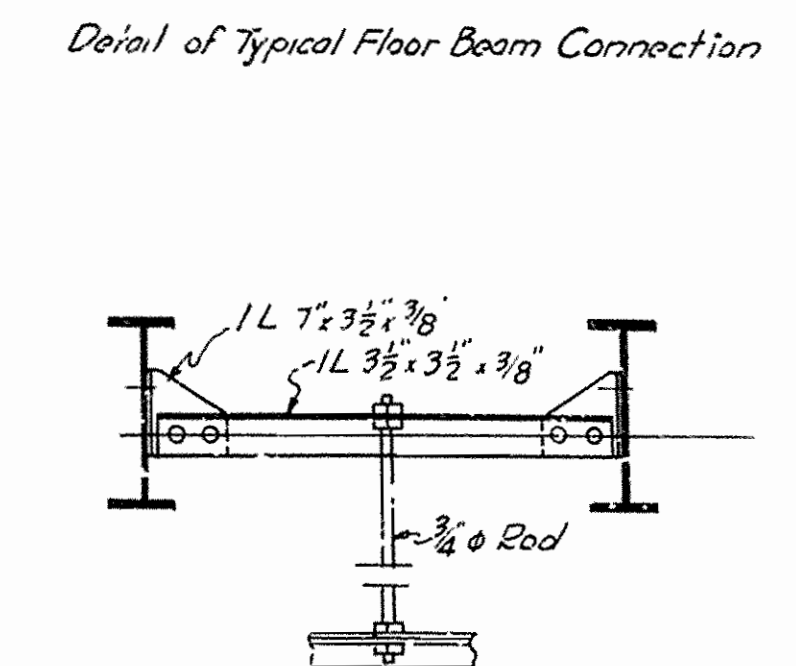
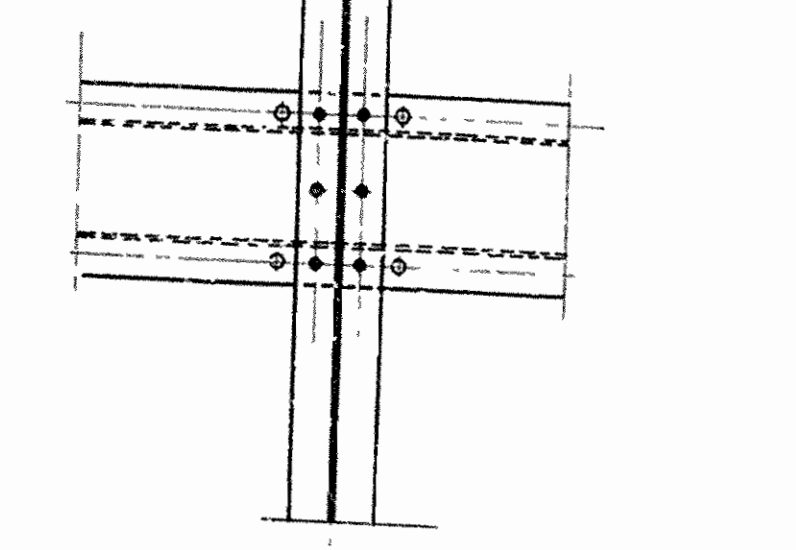
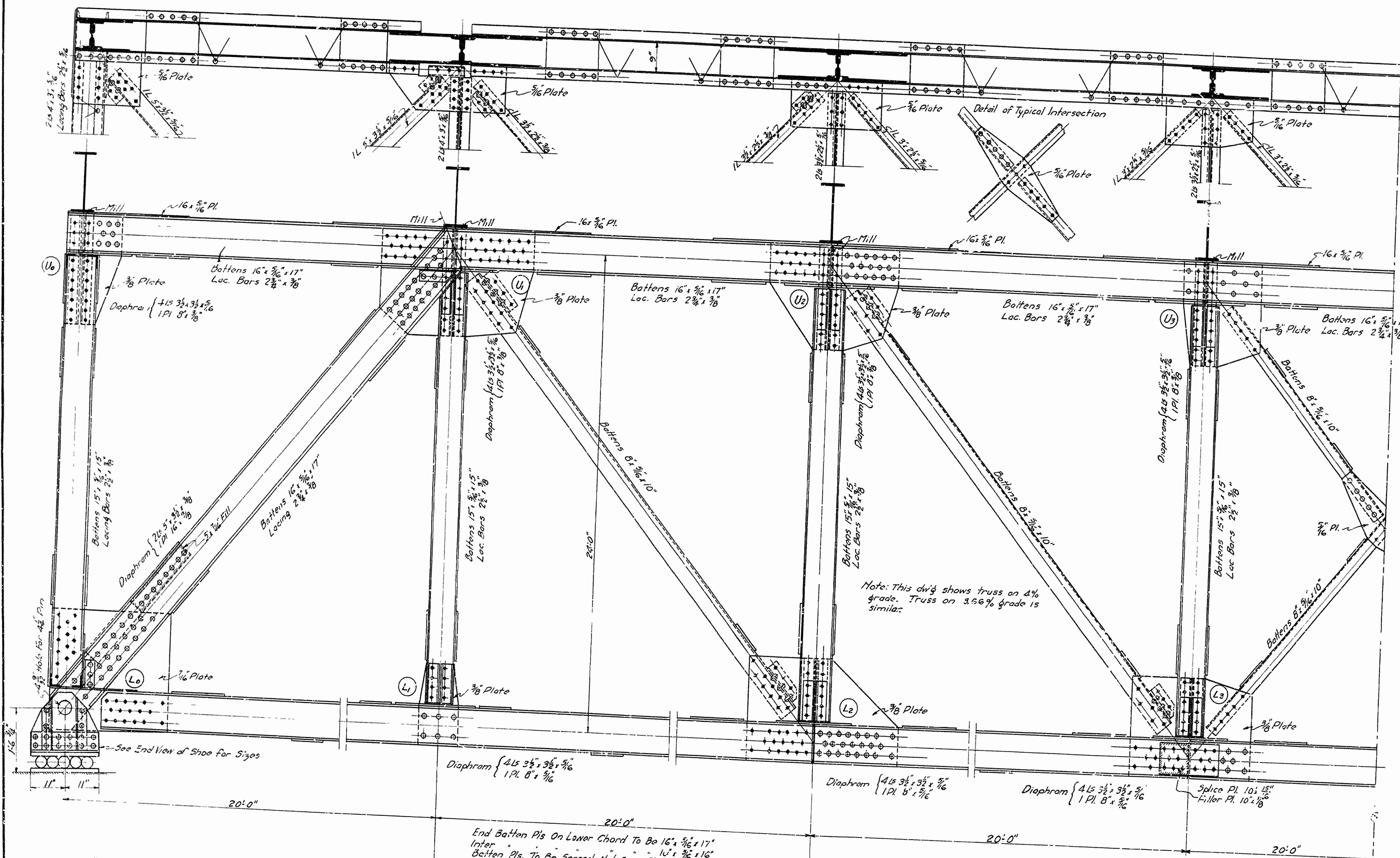
ARKANSAS STATE HIGHWAY DEPARTMENT
 LITTLE ROCK, ARK.

Drawn By: *HB* Date: 6/17/29
 Traced By: *CLC* Date: _____ Scale: 1/4" = 1 ft.
 Checked By: *ZPC* Date: 5/13/29
BRIDGE NO. 1230 DRAWING NO. 1701

N.B. Lawrence
 BRIDGE ENGINEER

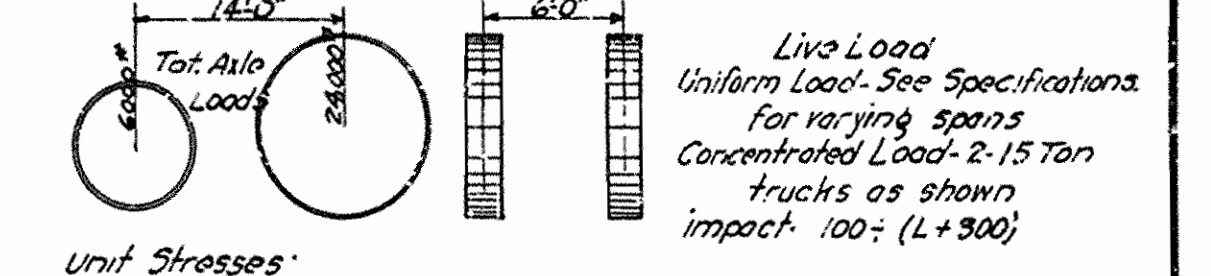
FISCAL YEAR	Job No	SHEET NO	TOTAL SHEETS
1929	7103	12	101

Hy. & Cr. Impr. Proj.



STEEL NOTES

Specifications - Arkansas State Highway Department Specifications adopted May 30, 1925 & revised. These drawings are general w. Shop drawings must be made in compliance with specifications, must be submitted and approved before fabrication begins. Members of equal or greater strength may be used in place of members shown, but payment will be made in accordance with sizes shown on these plans.



Unit Stresses:
Concrete - 1:2:3 - 810 lbs per sq. in.
Structural Steel - 18,000 " " "
Reinforcing Steel - 18,000 " " "

Rivets to be $\frac{3}{8}$ diameter except in top & bot laterals, sway bracing & in flanges of channels smaller than 12". Rivets in the above named members shall be $\frac{3}{8}$ in diameter. Rivet holes - Sub-punch both shop & field holes in all main truss connections $\frac{3}{16}$ smaller than rivet specified and ream to $\frac{1}{16}$ larger than rivet specified during shop assembly.

Members shall be match-marked and a suitable diagram furnished for erection.

All field connections to be riveted.

Rivet holes in flange angles spaced at point only; 1 hole is deducted from each angle at point of max. stress.

Shop paint 1 coat red lead & raw linseed oil. Field paint two coats of different colors as approved by the engineer.

Batten $\frac{1}{2}$ shall be spaced not over 3' c.c. on main members.

Conc. floor slab to be Class "S". Extra 1" added for wear.

Stringers & floor beams to be milled to exact length.

Hand rail to be field riveted after floor is poured.

Note: This dwg shows truss on 4% grade. Truss on 3.6% grade is similar.

End Batten Pls. On Lower Chord To Be $16 \times \frac{5}{16} \times 17$
Inter $10 \times \frac{5}{16} \times 16$
Batten Pls. To Be Spaced Not Over 3'0" center to center.

DETAILS OF
140'-0" DECK TRUSS FOR SPANS 1, 2, 6 & 7
FOR BRIDGE OVER OUACHITA RIVER
AT CALION, ARK.
UNION-CALHOUN CO.

ROUTE 15 SEC. 2 & 3
167
ARKANSAS STATE HIGHWAY DEPARTMENT
LITTLE ROCK, ARK.

Drawn By: N.O.E. Date: 6-15-29
Traced By: I.B. Date: 6-27-29
Checked By: R.C. Date: 7/16/29

Scale: $\frac{3}{4}$ in. = 1 ft.
BRIDGE NO. 1230 DRAWING NO. 1703

M.R. James
BRIDGE ENGINEER

FISCAL YEAR	Job No	SHEET	TOTAL SHEETS
1929	7103	13	20

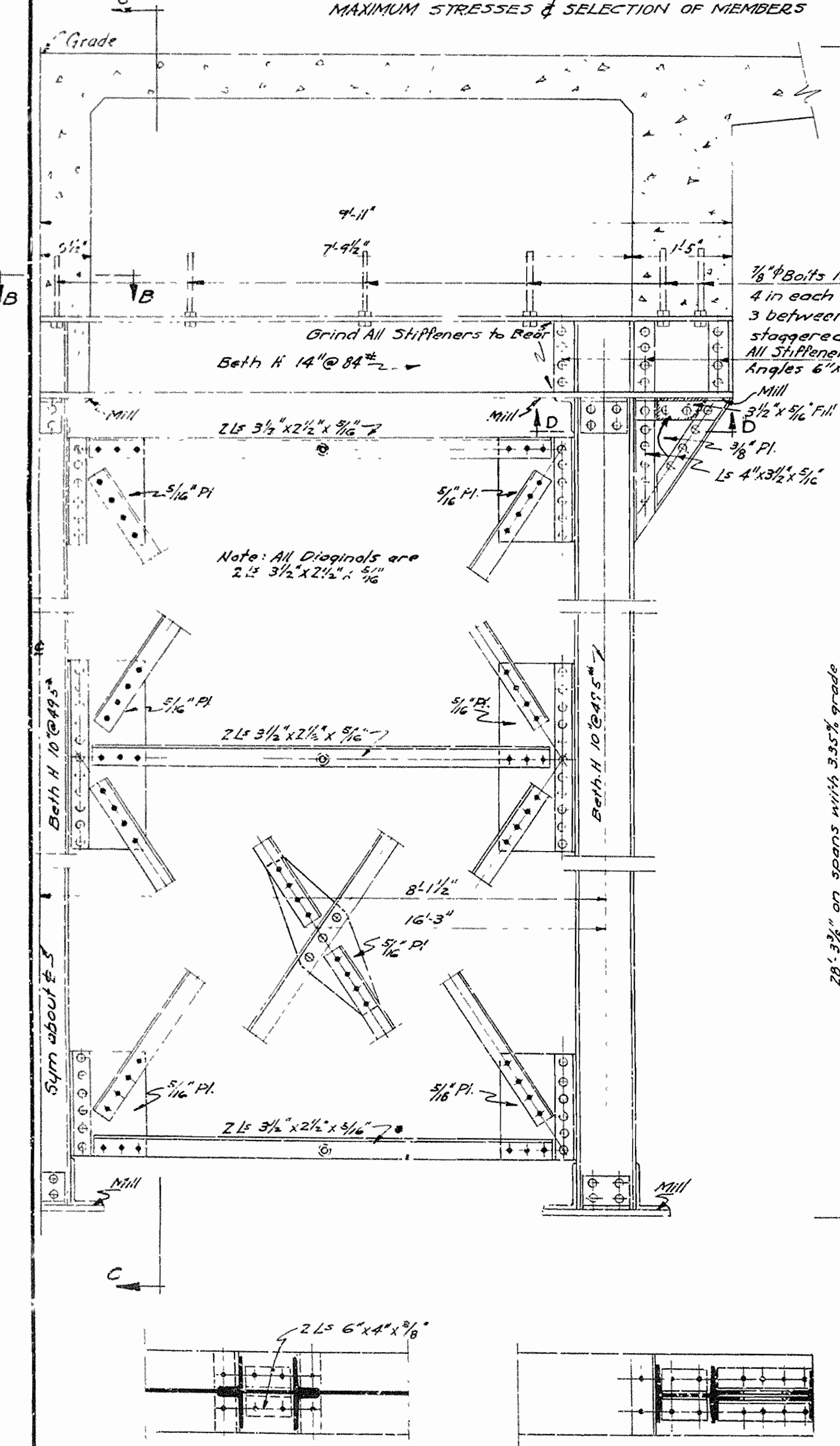
Hy. & Br. Impro. Proj.

MAXIMUM STRESSES & SELECTION OF MEMBERS

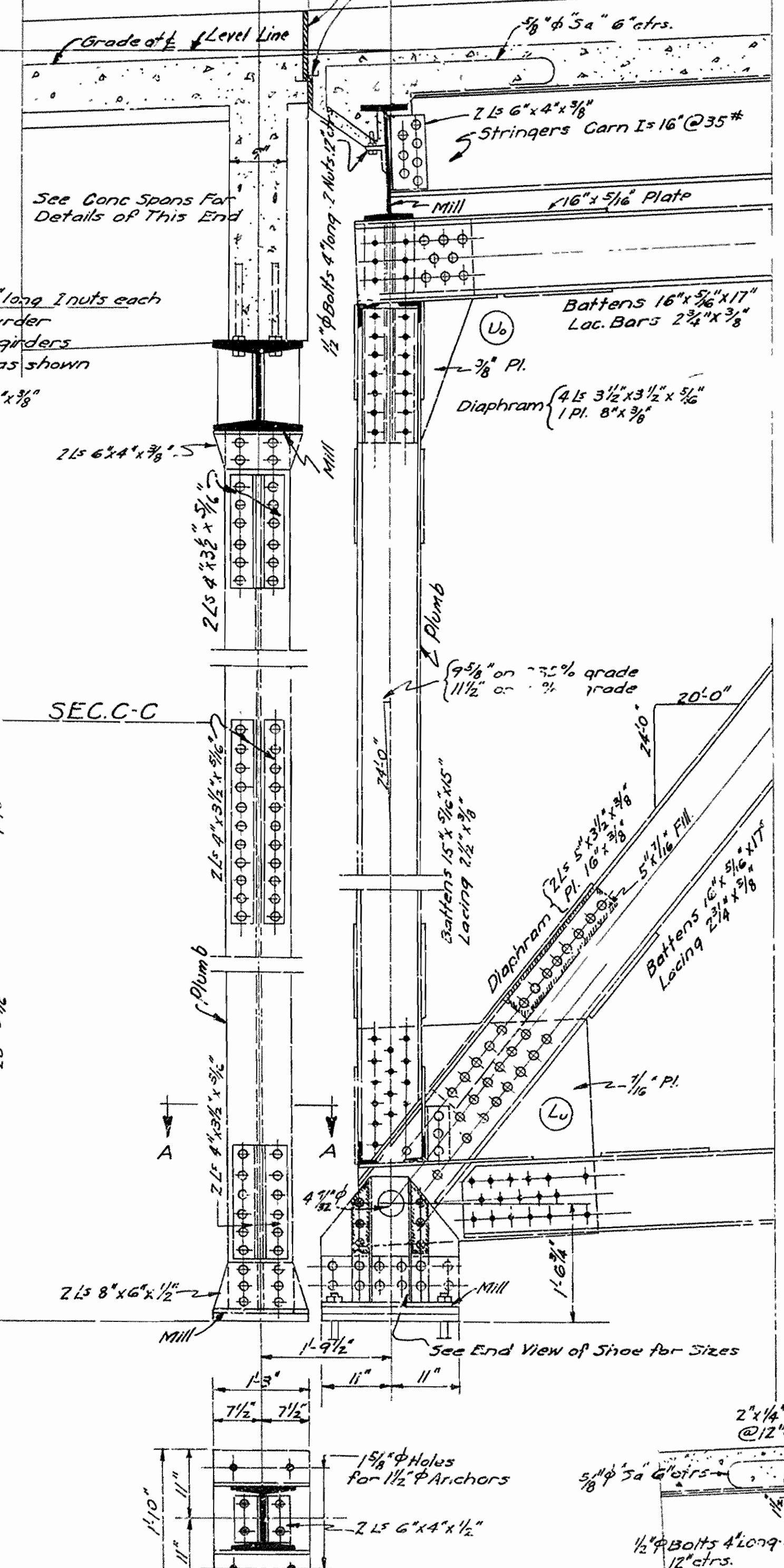
D = 0	D = 196.59	D = 235.91
L = 0	L = 73.60	L = 88.31
I = 0	I = 17.52	I = 21.02
T = 0	T = 287.71	T = 345.24

D = 23.60	D = 44.40	D = 47.20
L = 36.92	L = 37.87	L = 36.92
I = 11.03	I = 9.47	I = 11.03
T = 71.60	T = 141.74	T = 95.20

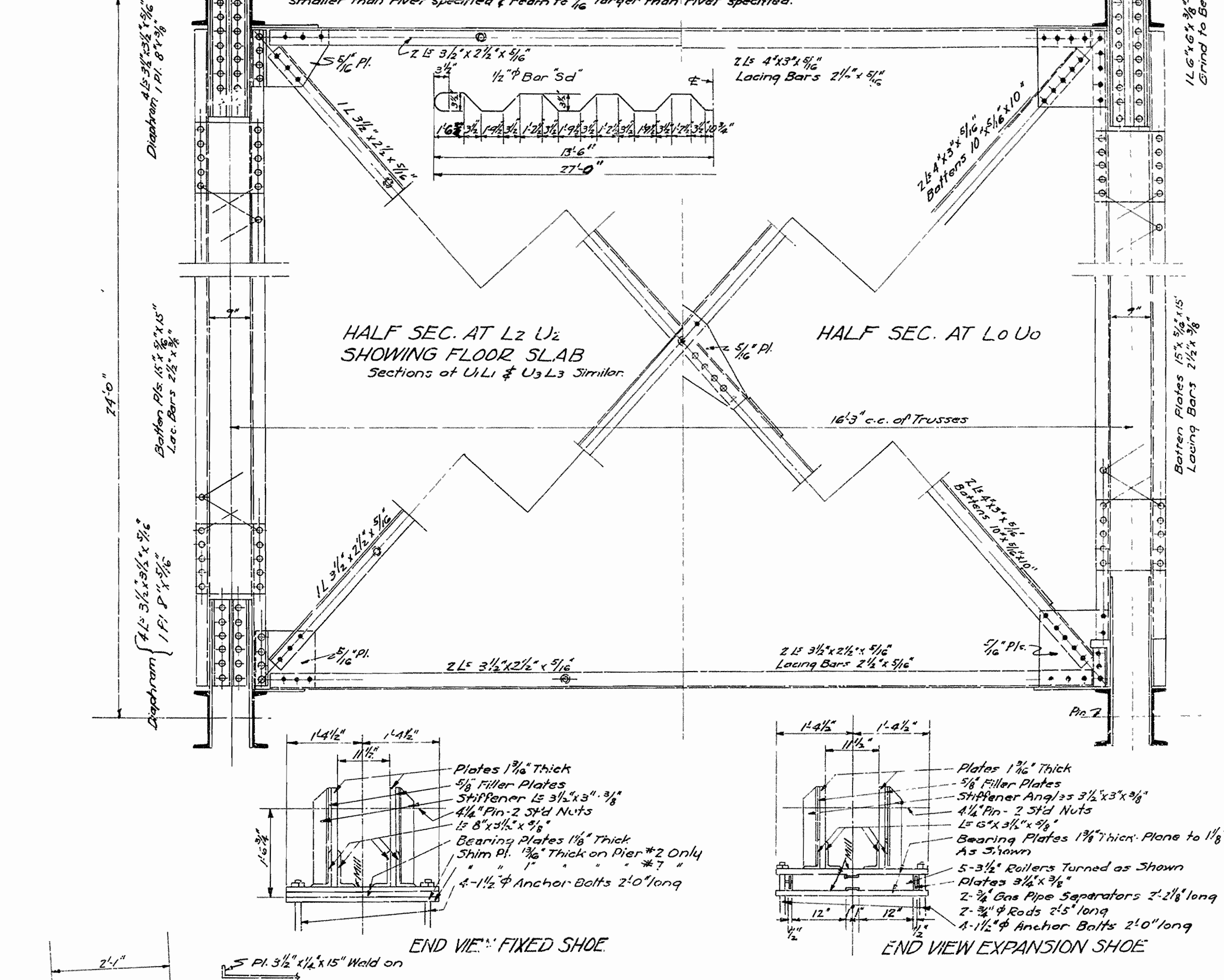
D = 117.95	D = 196.59	D = 235.91
L = 44.16	L = 73.60	L = 88.31
I = 10.51	I = 17.52	I = 21.02
T = 172.62	T = 287.71	T = 345.24



DETAIL OF STEEL BENT
Use 7/8" Rivets for All Connections



DETAILS OF EXPANSION JOINTS - PIER 2 & 7
Note: Expansion Joints at Piers 3 & 6 Similar



Stringer Data

D.L. Mom.	= 7860 x 20 x 1.5 = 235,800*
L.L. Mom.	= 825 x 120 x 3 = 573,960*
Impact	= 30% = 172,008*
Tot. Mom.	= 981,168*
Sec. Mod. Req'd.	= 981,168 / 18,000 = 54.51
" " of Carn. Is 16" @ 35"	= 54.68

Floor Beam Data

D.L. Mom. At Support	= 72,835*
L.L. Mom.	= 14,250 x 2.875 = 40,967*
Impact	= 30% = 12,291*
Tot. Mom.	= 126,095*
Sec. Mod. Req'd.	= 126,095 x 12 / 18,000 = 84.06
" " of Carn. Is 18" @ 47"	= 85.4

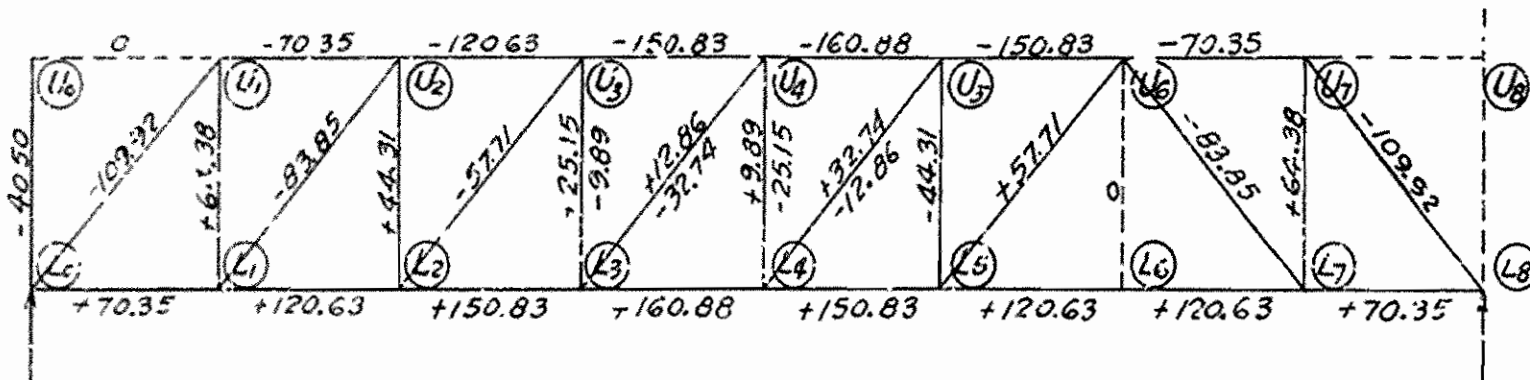
DETAILS OF SPANS 1, 2, 6 & 7 CONTINUED & STEEL BENTS
BRIDGE OVER OUACHITA RIVER, CALION, ARK.
UNION-CALHOUN COUNTIES

ROUTE 15 SEC. 2 & 3
167
ARKANSAS STATE HIGHWAY DEPARTMENT
LITTLE ROCK, ARK.

Drawn By: *Joe* Date: 6-17-29
Traced By: *Joe* Date: 6-28-29
Checked By: *Joe* Date: 7-17-29
Scale: 3/8" = 1 ft.
DRAWING NO. 1704

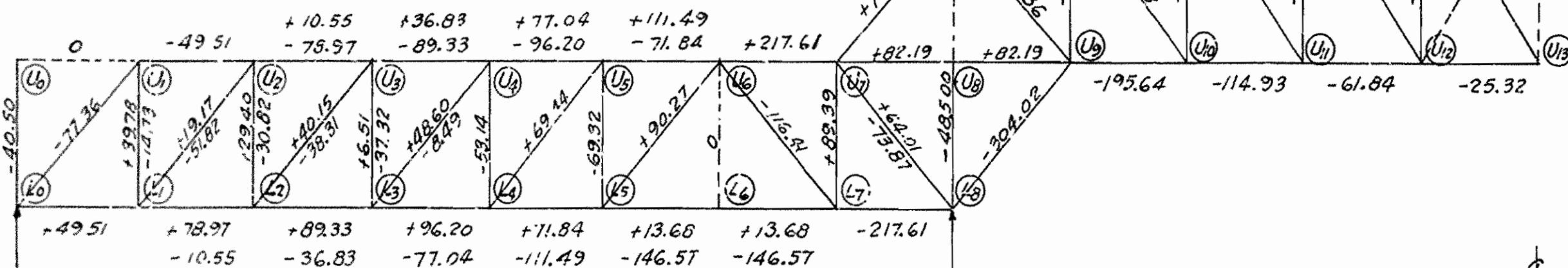
J.P. Gower
BRIDGE ENGINEER

ERECTION STRESSES - SIMPLE SPAN

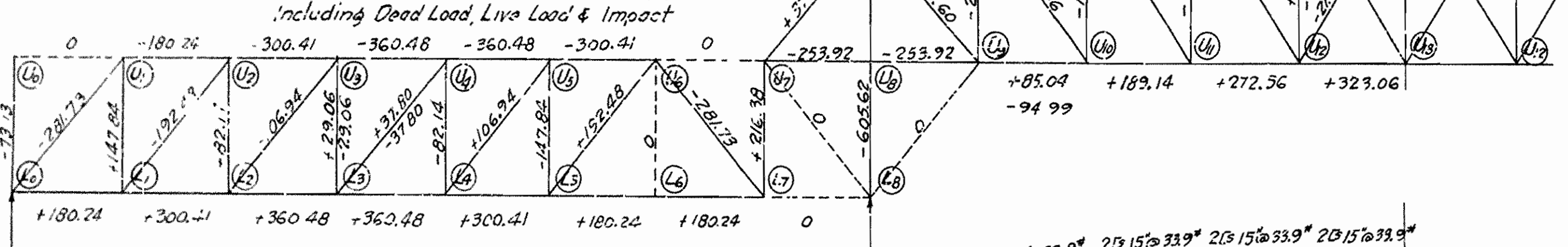


Note Erection Traveler Estimated To Weigh 25 Tons

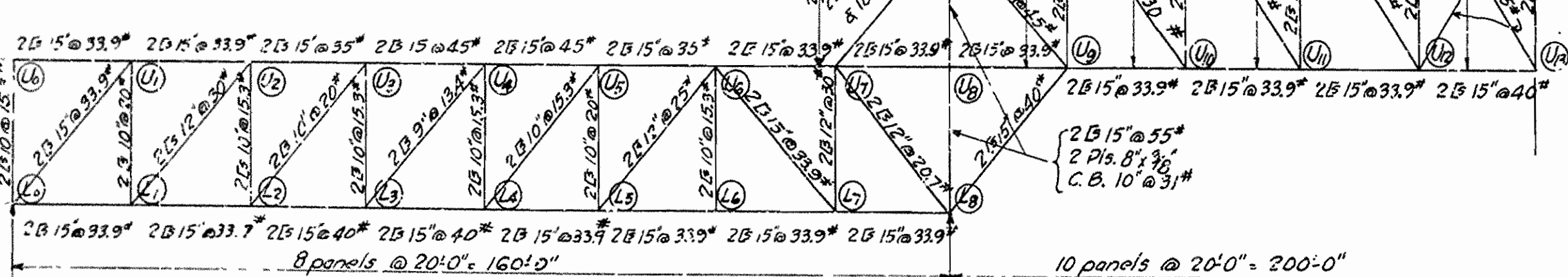
CANTILEVER ERECTION STRESSES



STRESSES IN FINISHED STRUCTURE



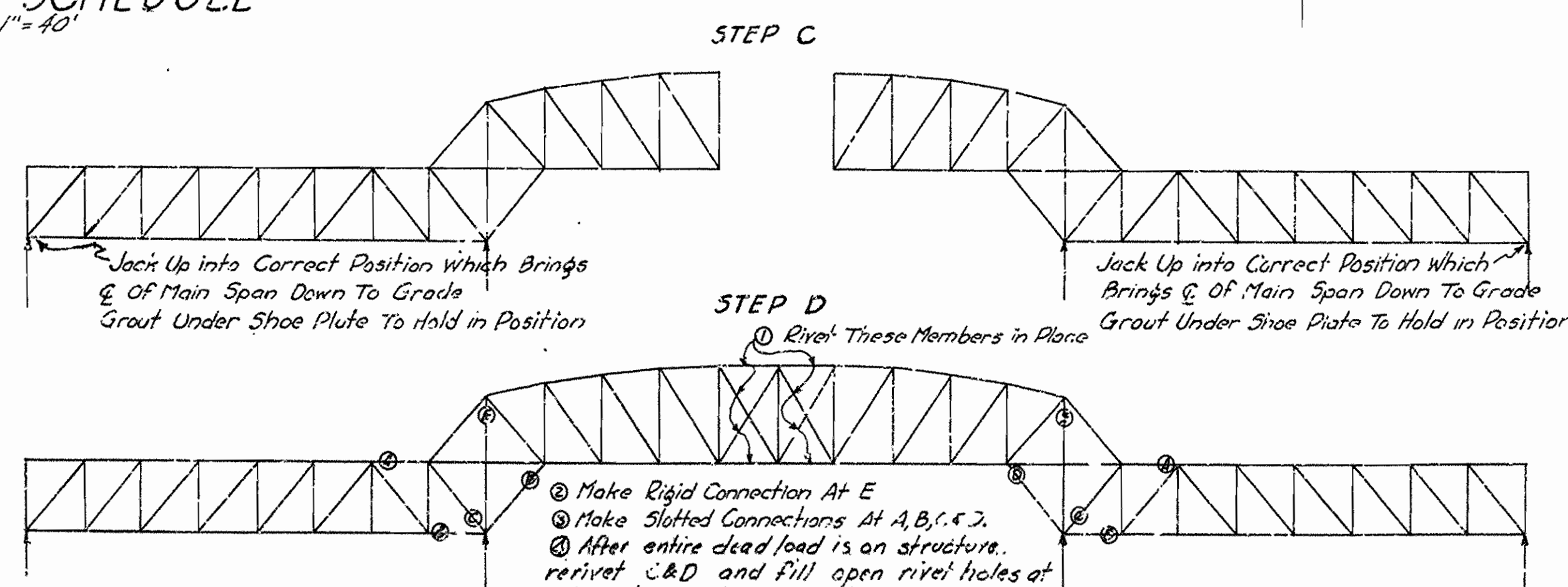
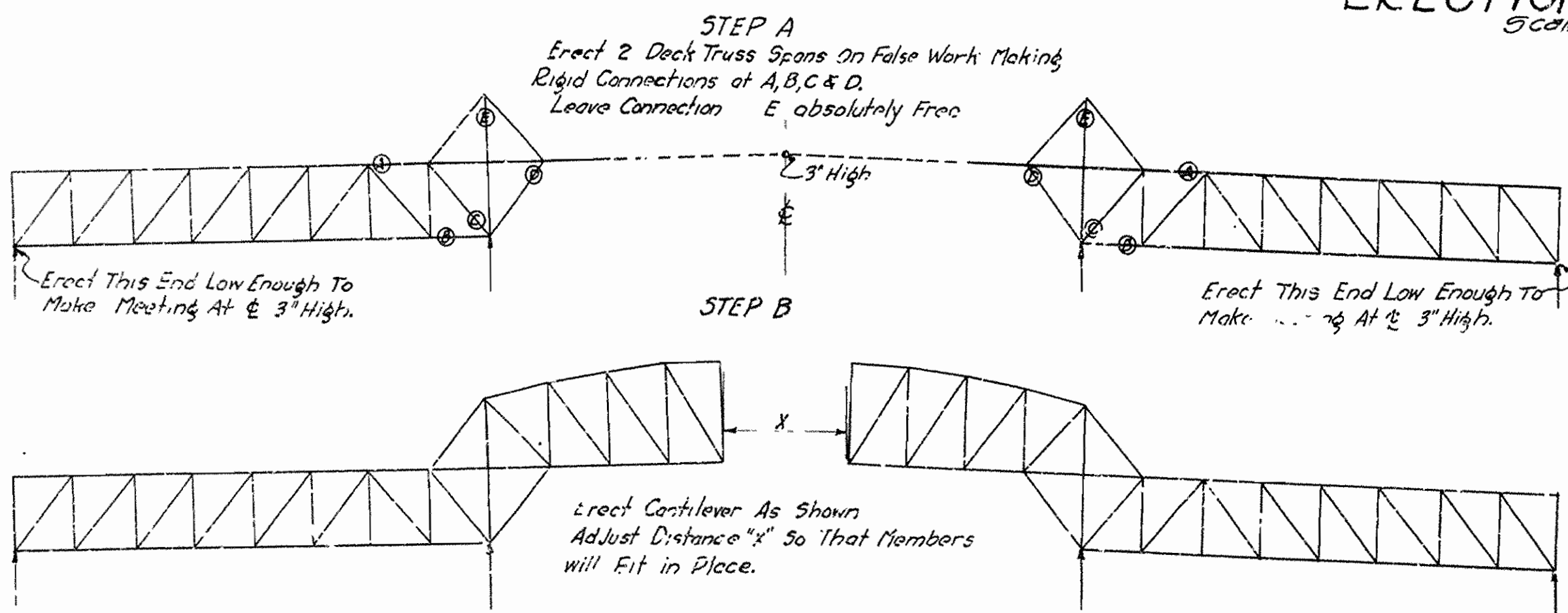
SELECTION OF MEMBERS



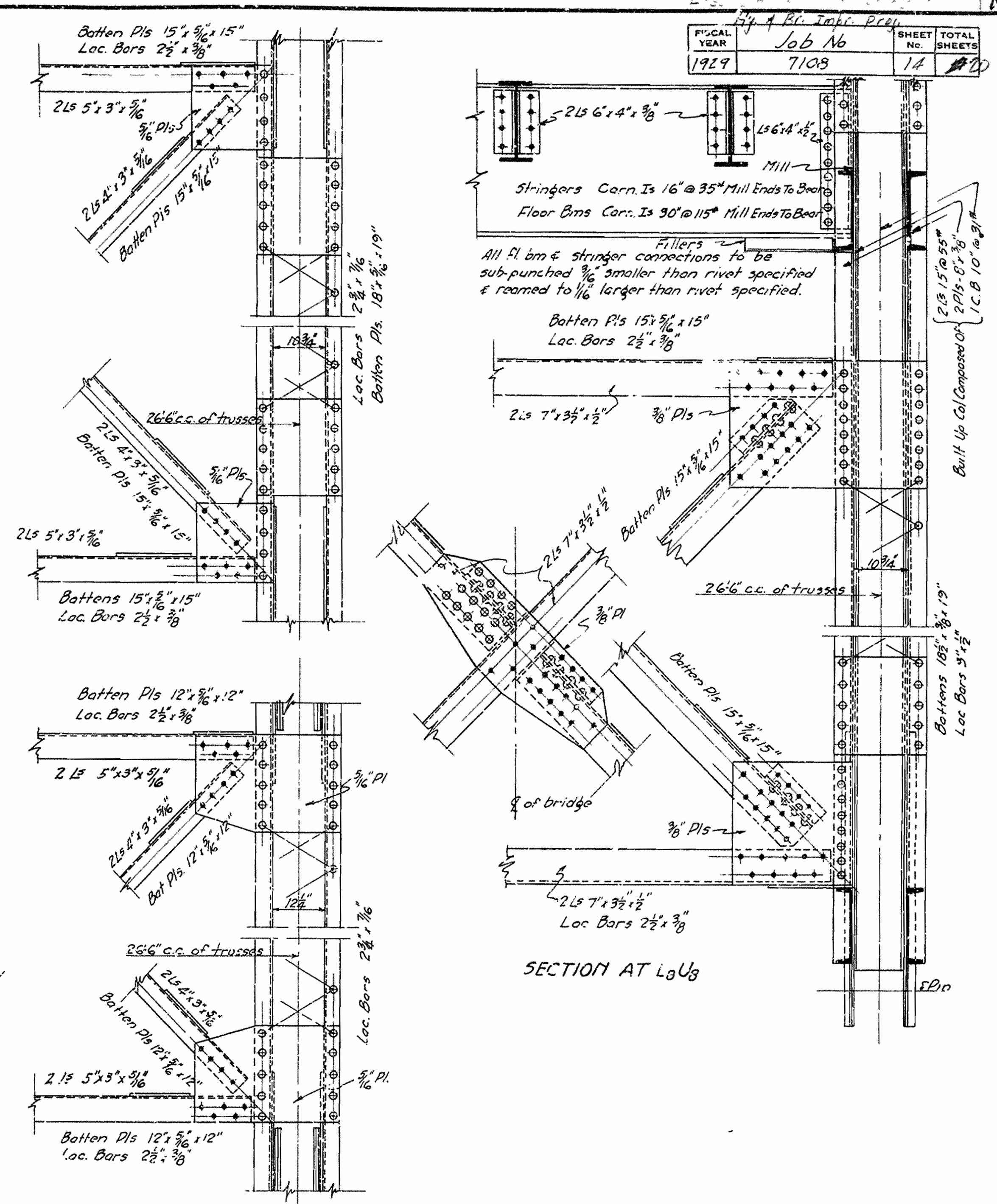
Scale 1" = 20'

ERECTION SCHEDULE

Scale 1" = 40'



- 1. Make Rigid Connection At E
- 2. Make Slotted Connections At A, B, C & D.
- 3. After entire dead load is on structure, rivet C & D and fill open rivet holes at A & B with suitable metal.



ERECTION DIAGRAMS, STRESS DIAGRAMS AND DETAILS FOR SPANS 3, 4 & 5

FOR THE BRIDGE OVER QUINCY RIVER AT CALION, ARK.

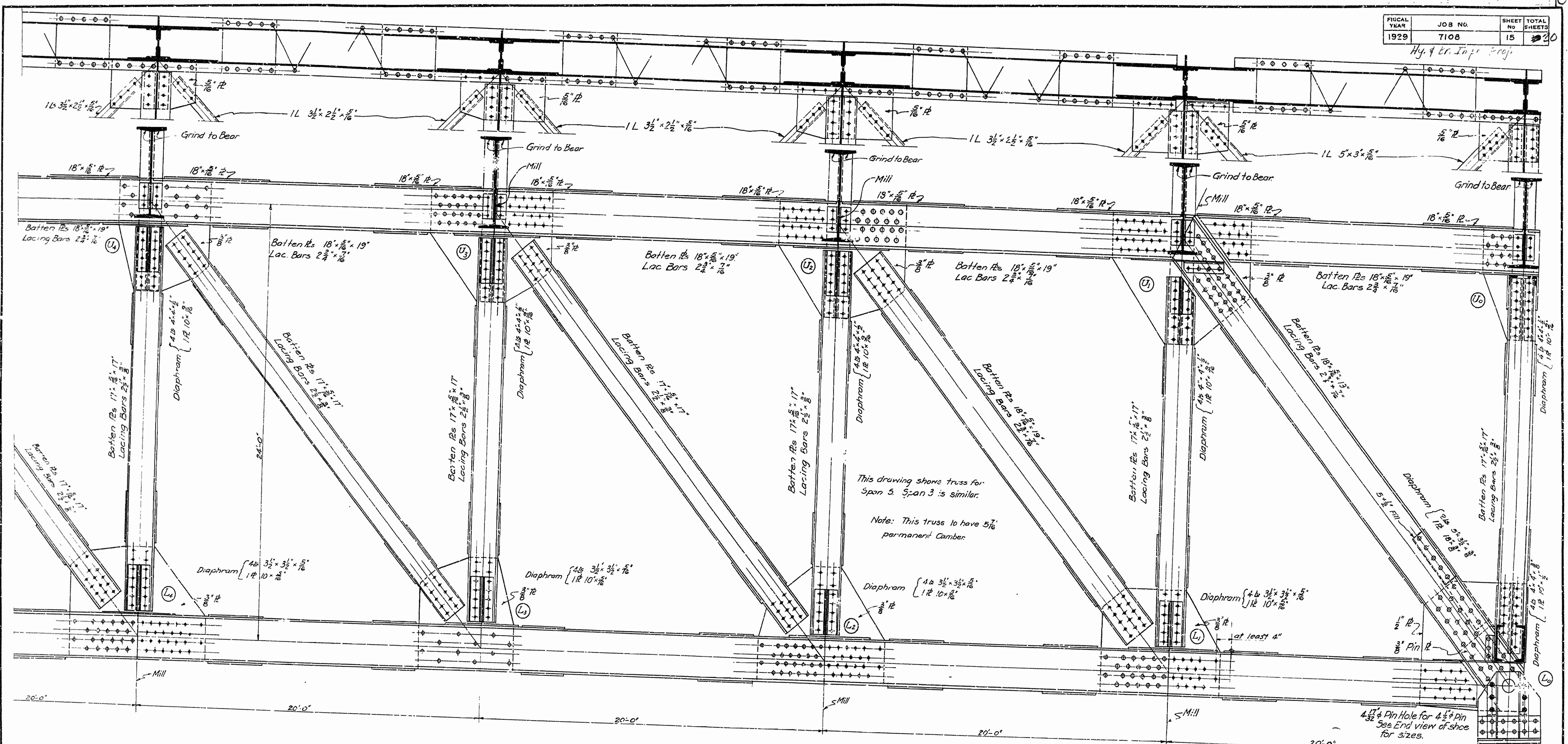
UNION-CALHOUN CO. ROUTE 15 SEC. 2 T. 25 N. R. 167 E.

ARKANSAS STATE HIGHWAY DEPARTMENT LITTLE ROCK, ARK.

Drawn By: H.C.E. Date: 6-26-29
Traced By: H.C.E. Date: 6-29-29
Checked By: J.P.L. Date: 7-1-29
BRIDGE NO. 1231 DRAWING NO. 705

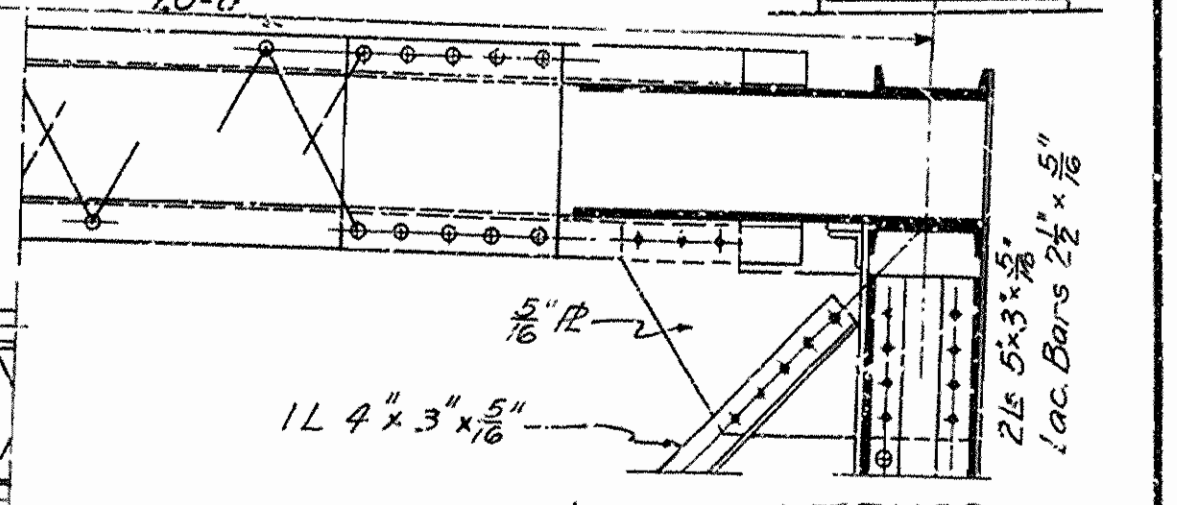
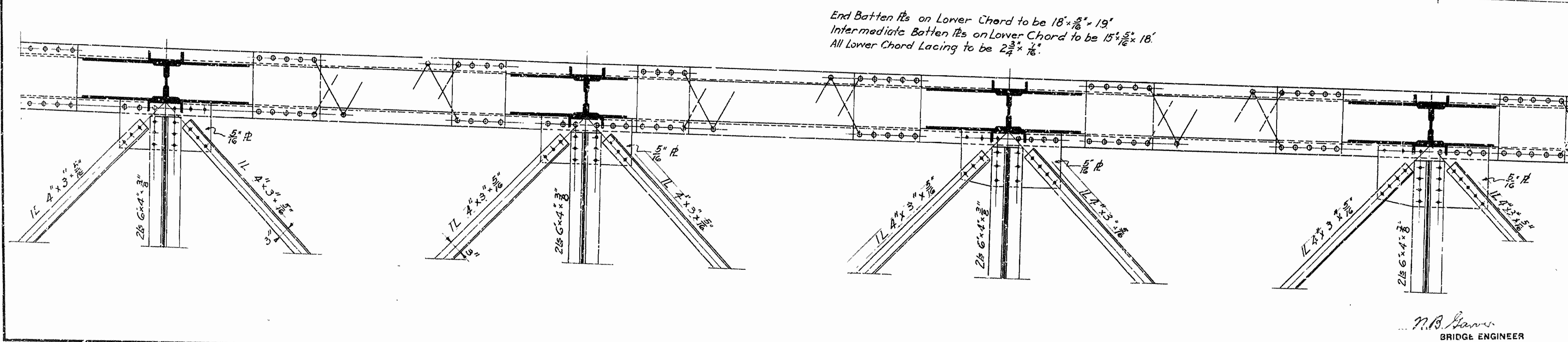
M.B. Garver
BRIDGE ENGINEER

Hy. & Cr. Insp. Proj.



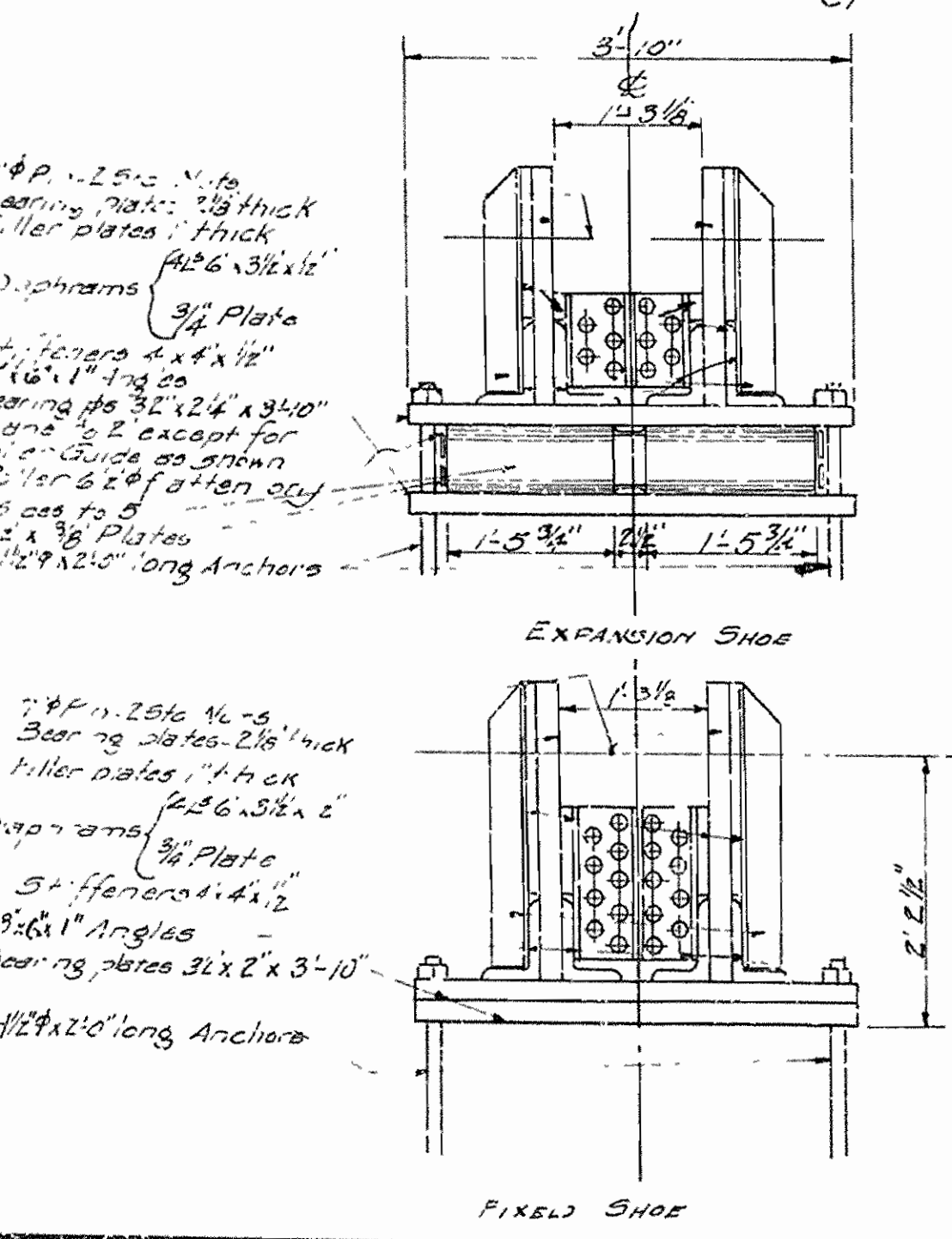
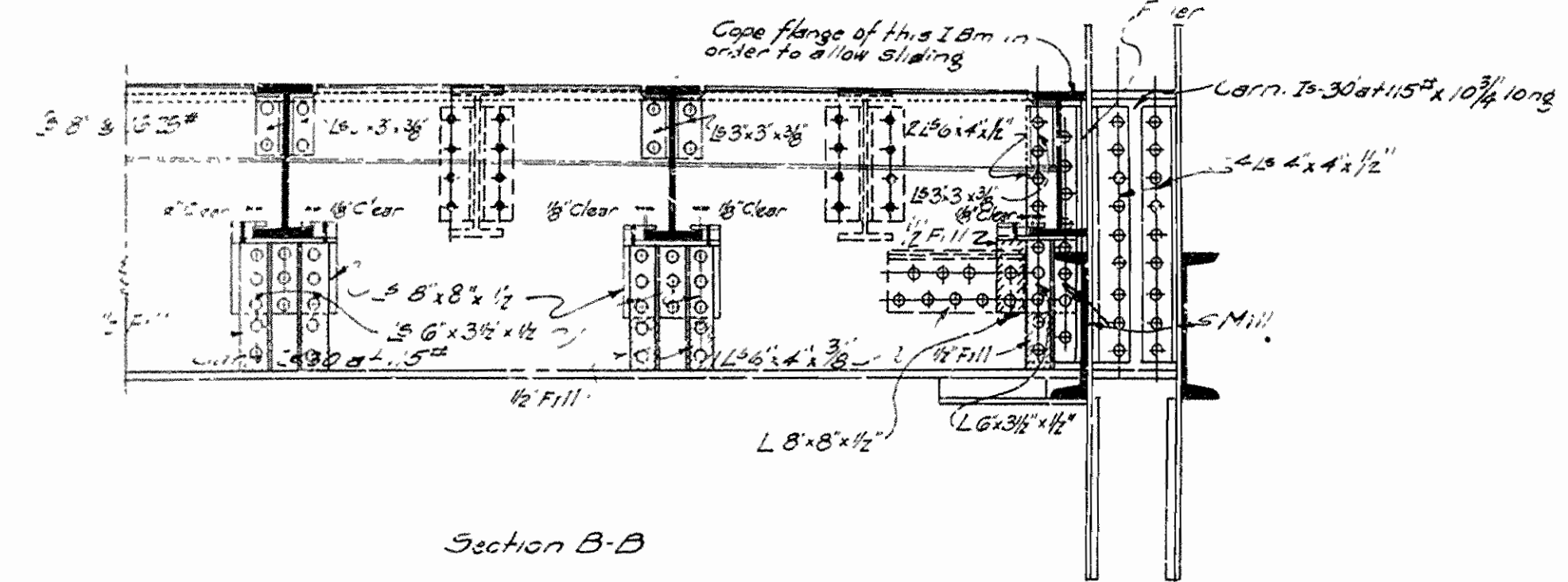
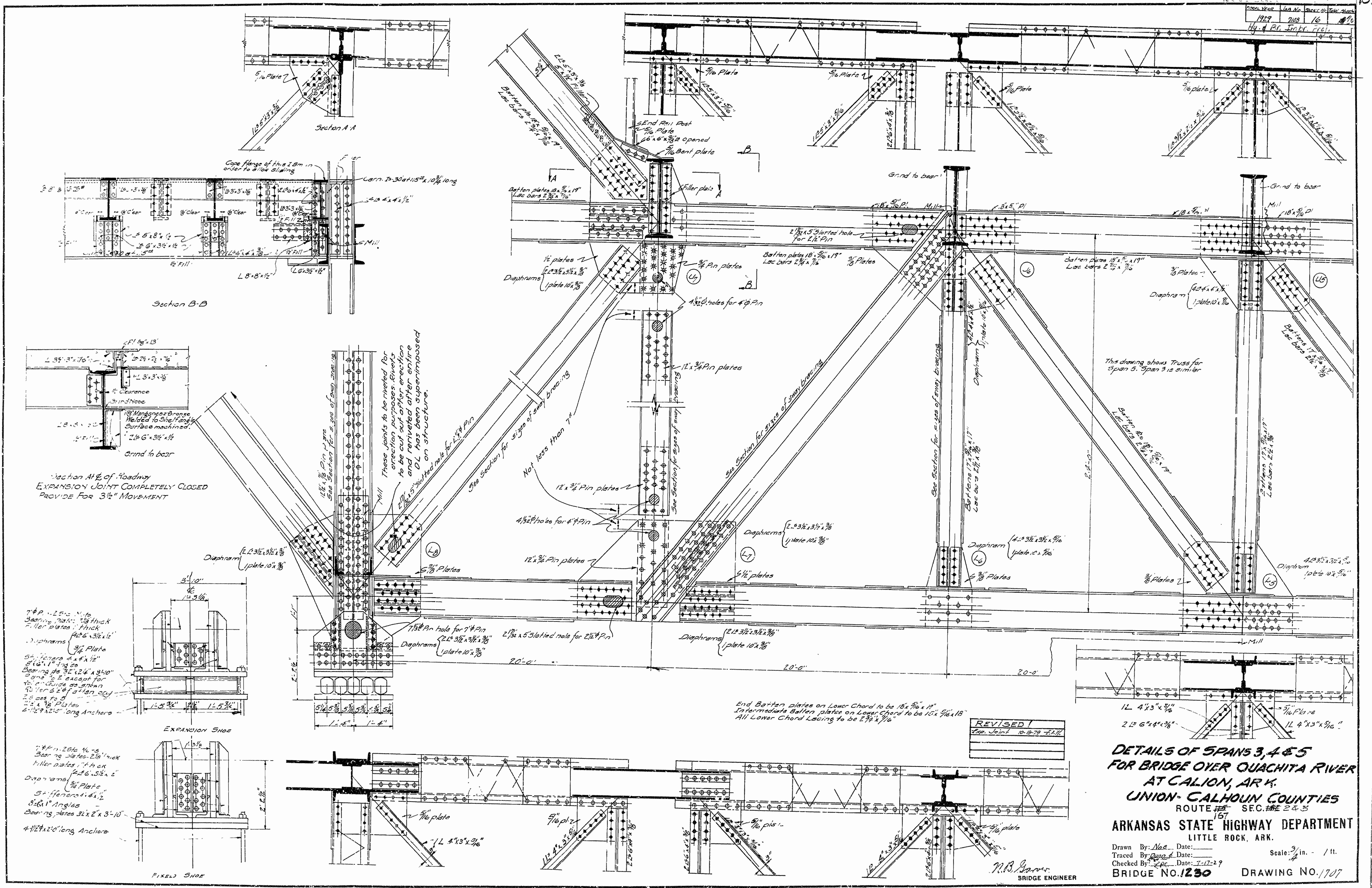
This drawing shows truss for Span 5. Span 3 is similar.
Note: This truss to have 5/16 permanent Camber.

End Batten Rs on Lower Chord to be 18 x 5/8 x 19
Intermediate Batten Rs on Lower Chord to be 15 x 5/8 x 18
All Lower Chord Lacing to be 2 3/4 x 7/8



DETAILS OF 140-0 DECK TRUSS
FOR SPANS 3 & 5
FOR BRIDGE OVER OUACHITA RIVER
AT CALION, ARK.
UNION-CALHOUN, CO.
ROUTE # SEC. # 2 P 3
167
ARKANSAS STATE HIGHWAY DEPARTMENT
LITTLE ROCK, ARK.
Drawn By: *Doc* Date: _____
Traced By: *W.D.* Date: *1-2-29*
Checked By: *Z.P.C.* Date: *7/12/29*
Scale: 3/4 in. = 1 ft.
BRIDGE NO. 1230 DRAWING NO. 1706

N.B. Evans
BRIDGE ENGINEER



REVISIONS

1	REVISED	10-12-27	J.H.K.
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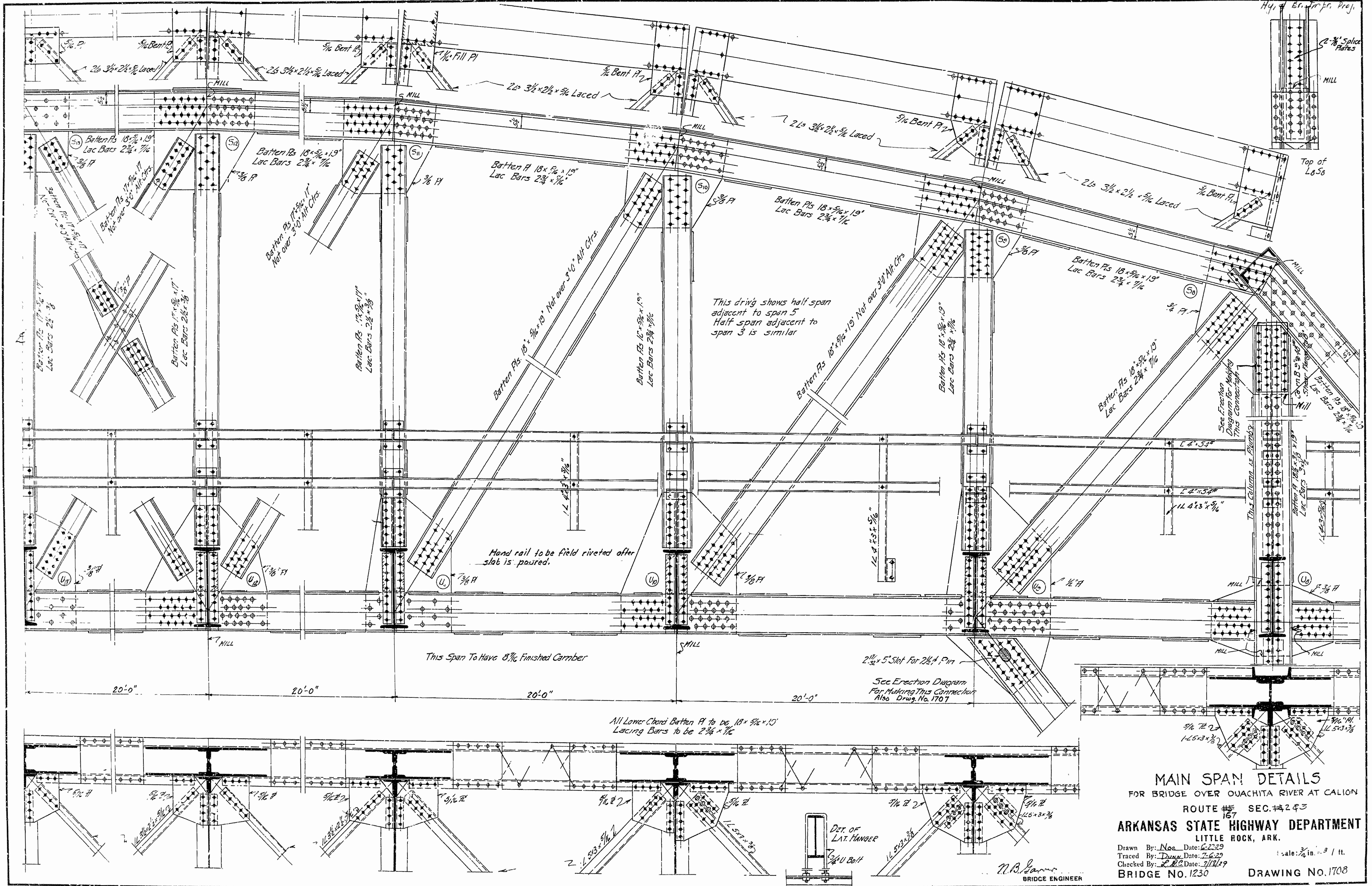
DETAILS OF SPANS 3, 4 & 5 FOR BRIDGE OVER QUACHITA RIVER AT CALION, ARK. UNION-CALHOUN COUNTIES ROUTE 167 SEC. 2 & 3 167

ARKANSAS STATE HIGHWAY DEPARTMENT LITTLE ROCK, ARK.

Drawn By: *N.B. Gamm* Date: _____
 Traced By: *W.C. Gamm* Date: _____
 Checked By: *W.C. Gamm* Date: 7-17-29
 BRIDGE NO. 1230 DRAWING NO. 1707

Scale: 3/4" = 1 ft.

End Batten plates on Lower Chord to be 18 x 3/8 x 17"
 Intermediate Batten plates on Lower Chord to be 16 x 3/8 x 18"
 All Lower Chord Lacing to be 2 3/4 x 1/4"



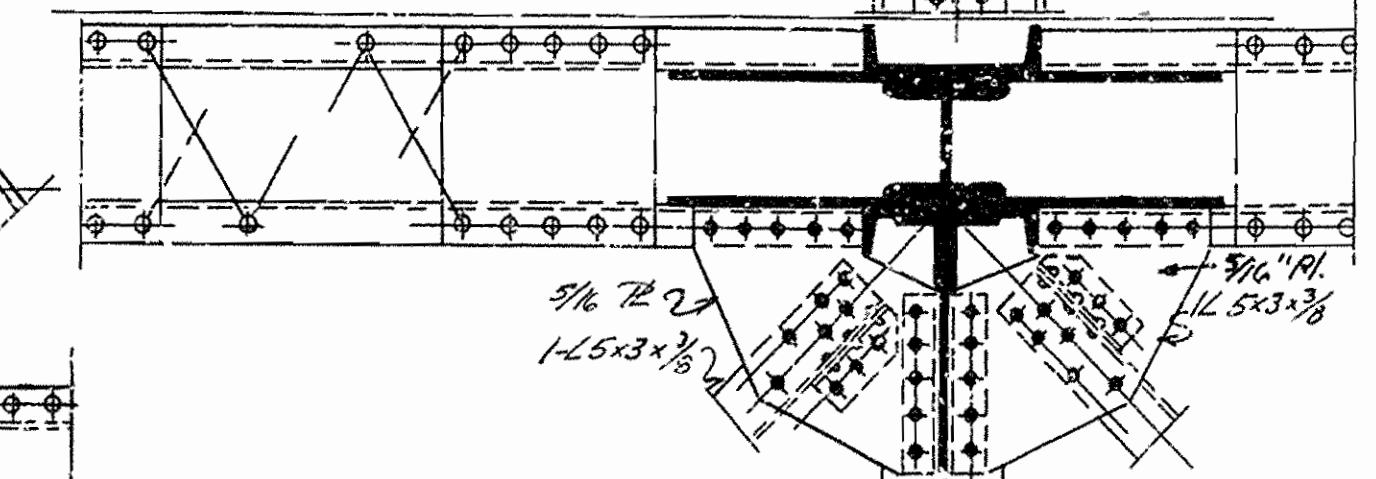
This drawing shows half span adjacent to span 5
 Half span adjacent to span 3 is similar

Hand rail to be field riveted after slab is poured.

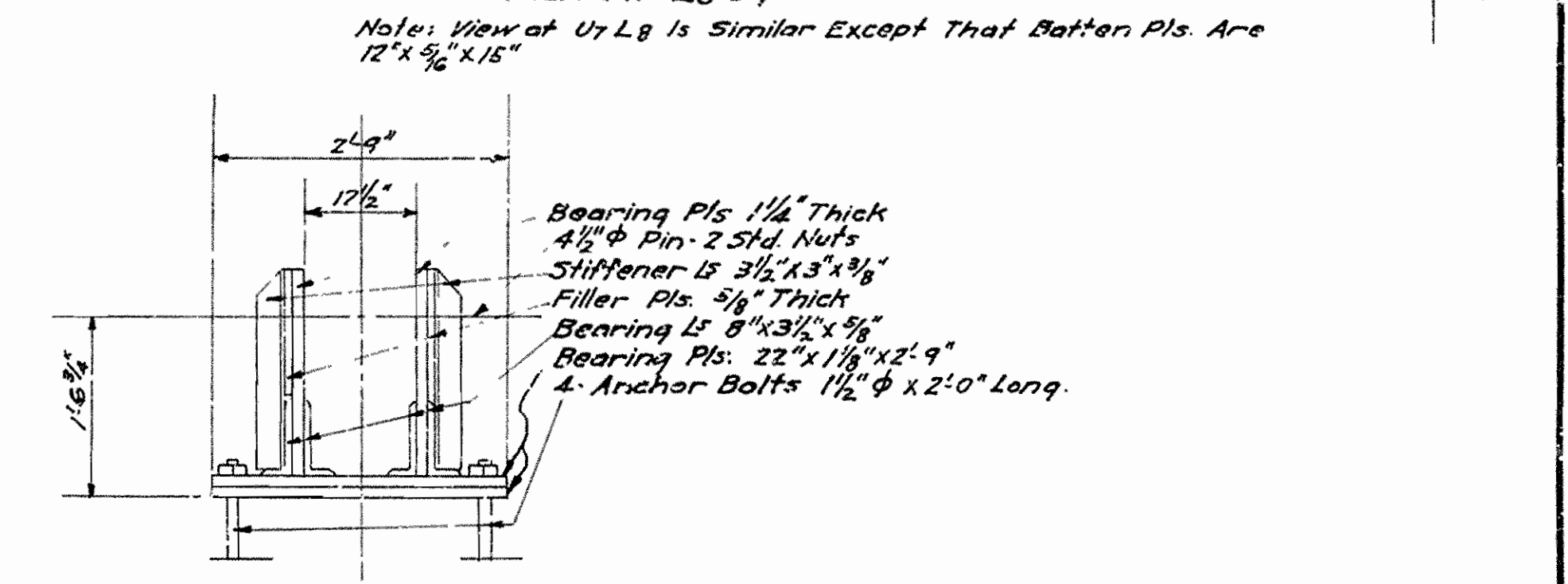
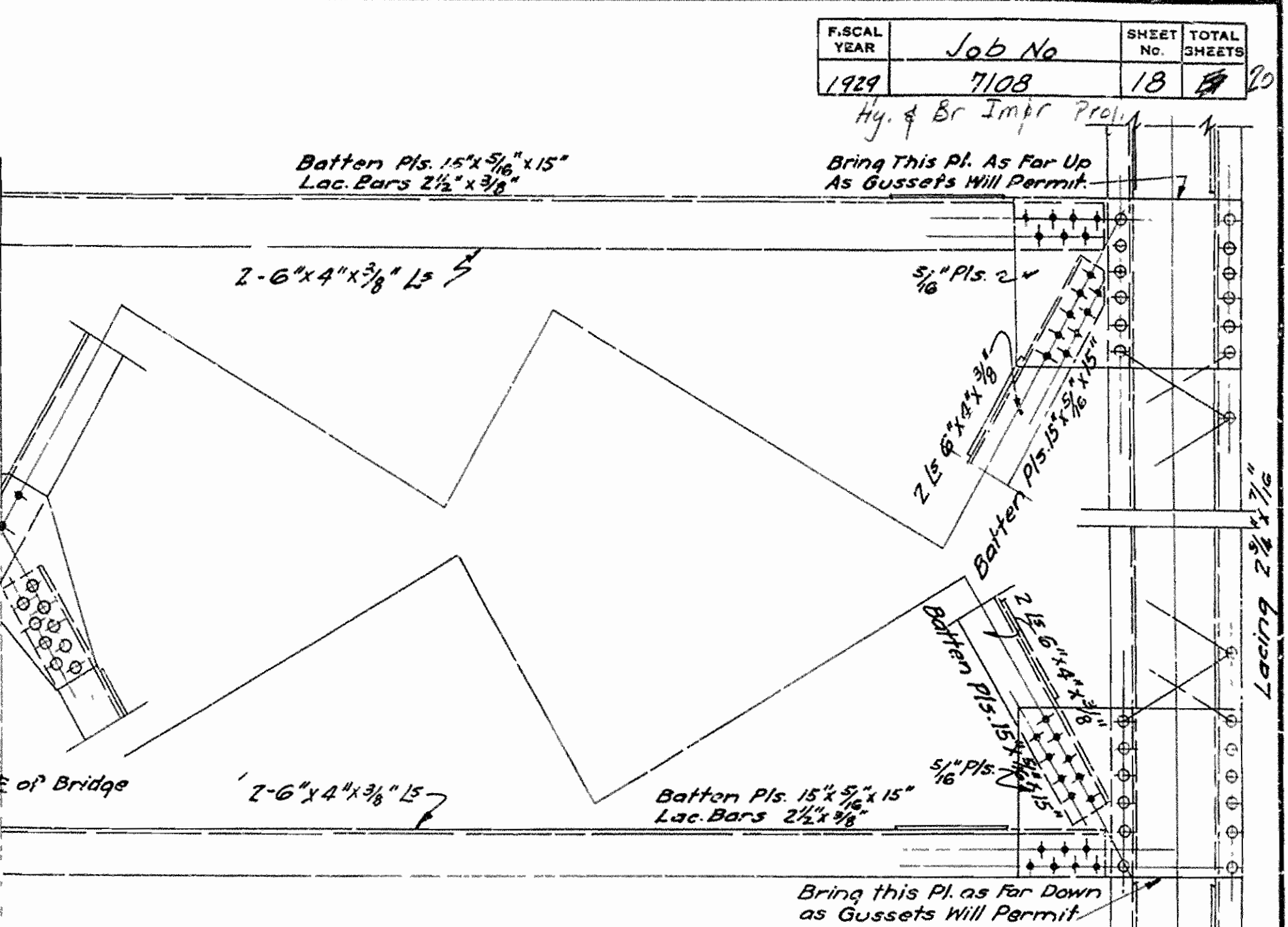
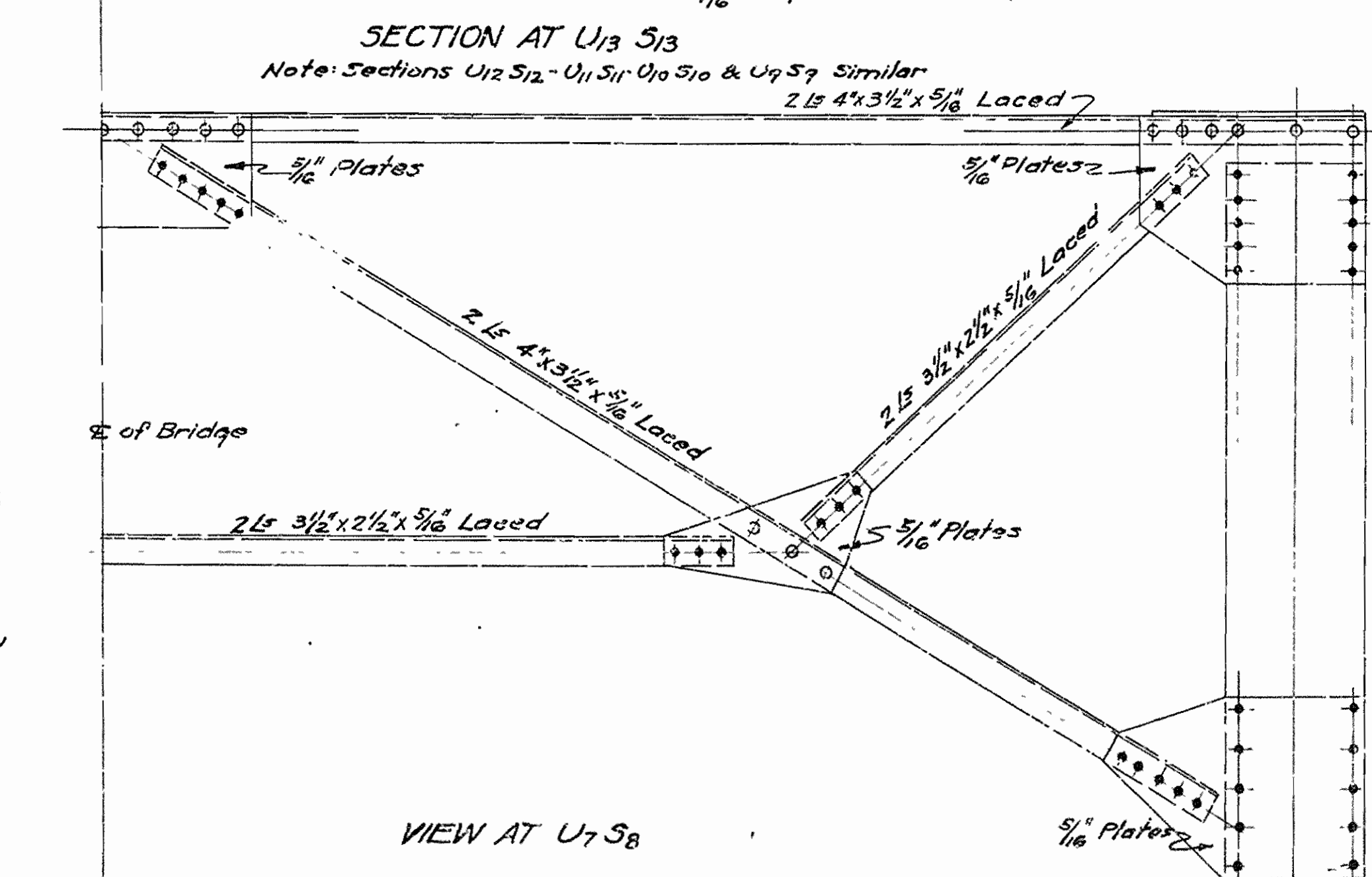
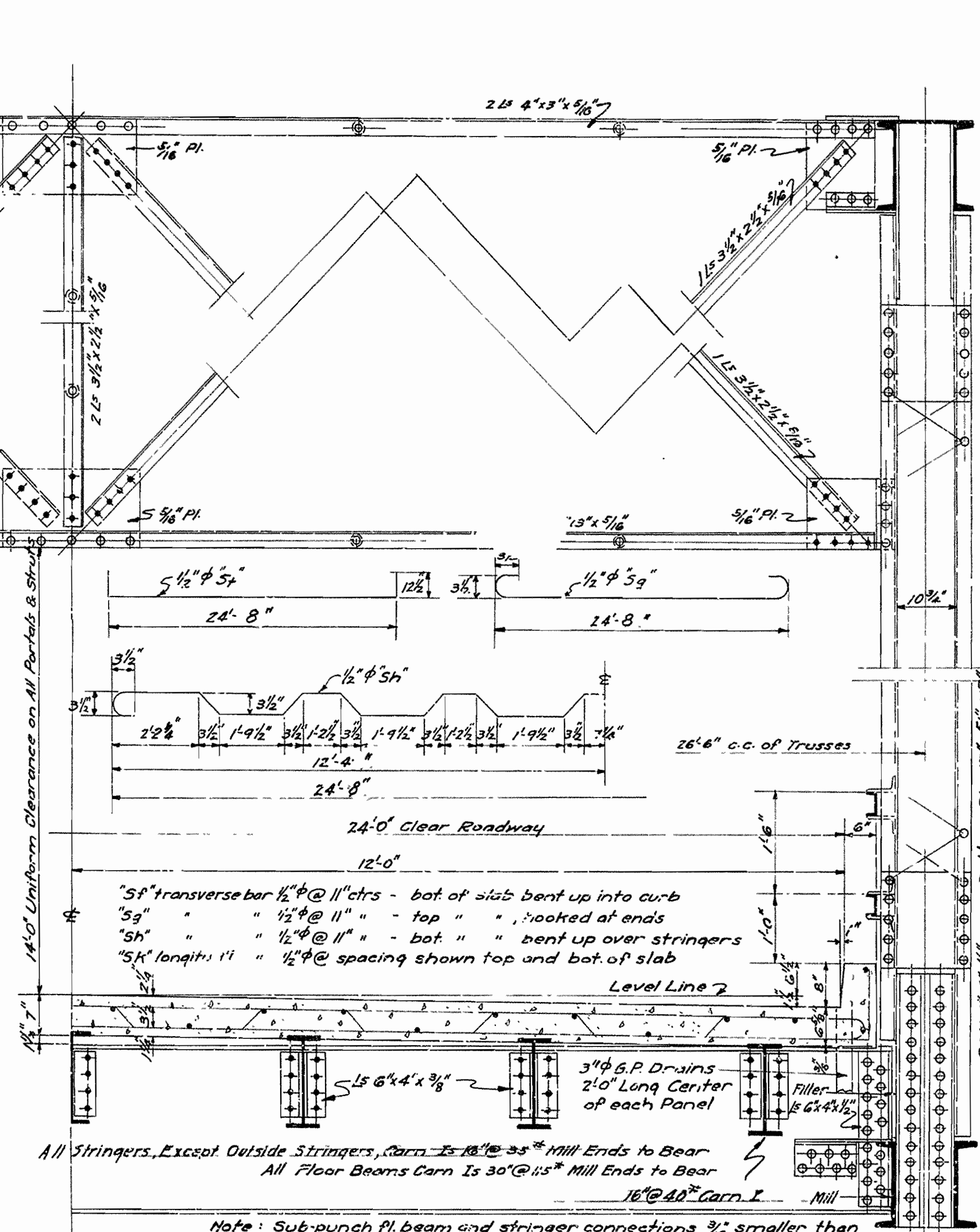
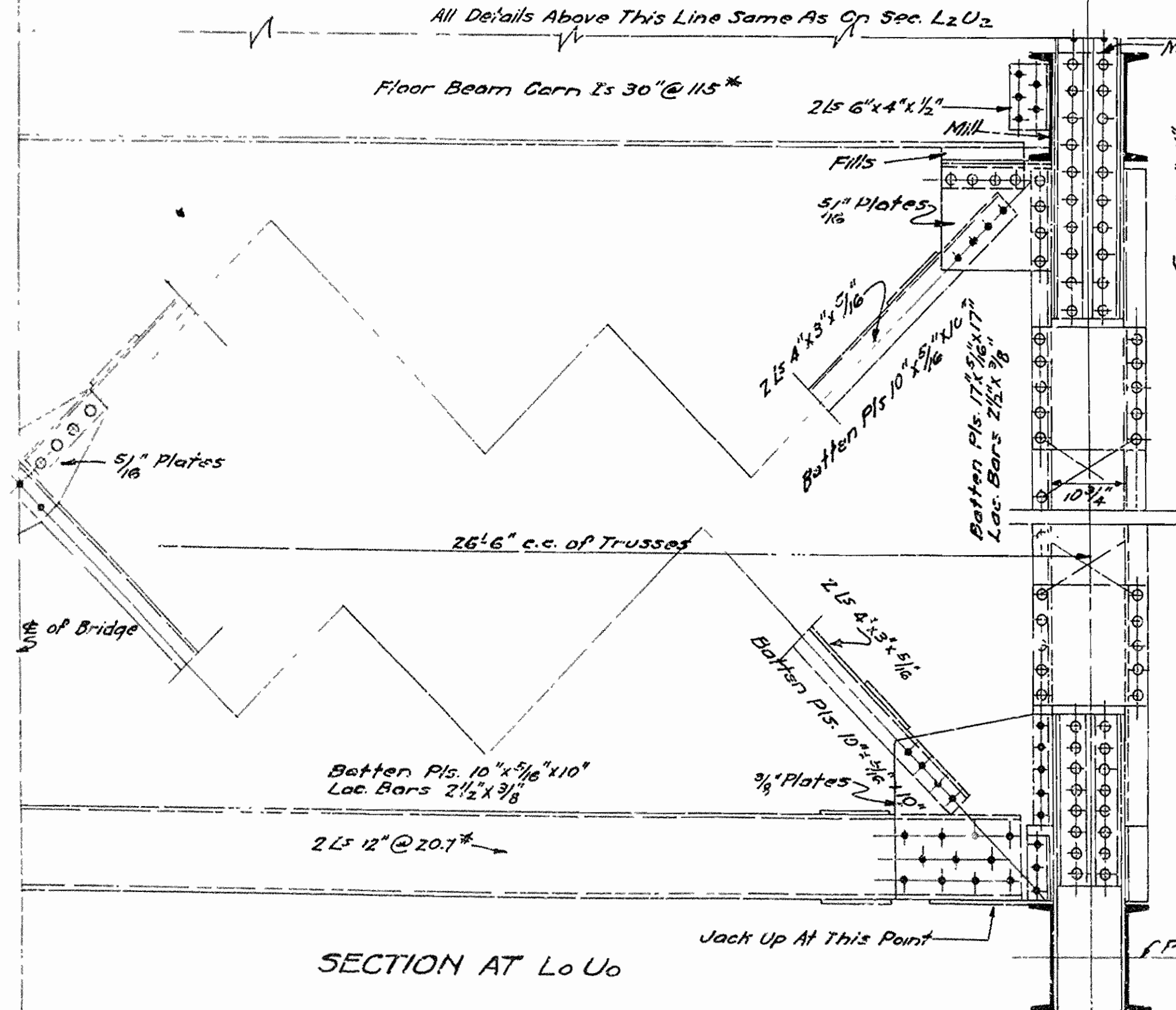
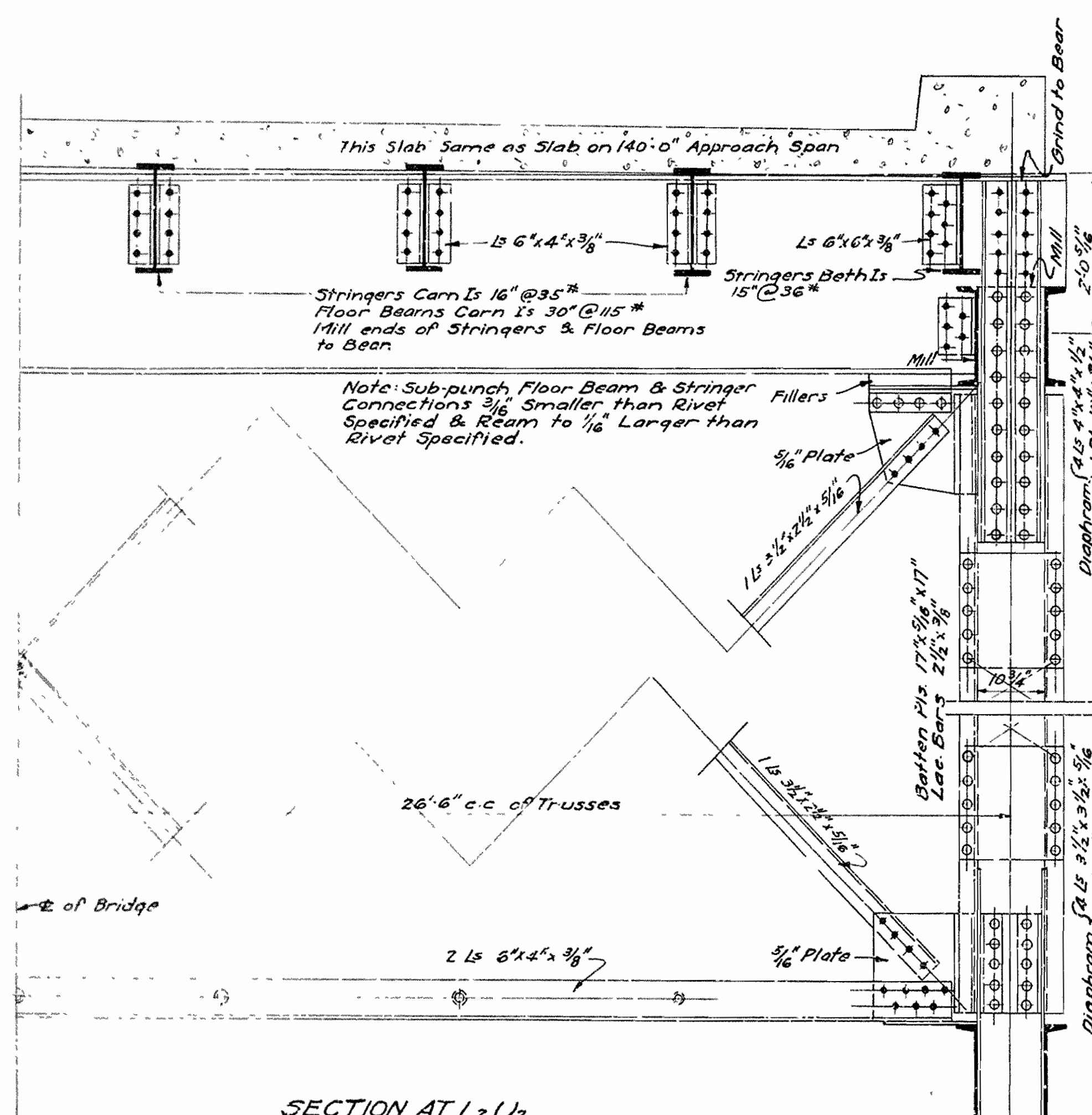
This Span To Have 8/16 Finished Camber

See Erection Diagram For Making This Connector Also Draw. No. 1707

All Lower Chord Batten Pl to be 18 x 9/16 x 19 Lacing Bars to be 2 3/4 x 1/2



MAIN SPAN DETAILS
 FOR BRIDGE OVER OUACHITA RIVER AT CALION
 ROUTE #157 SEC. 24 & 25
ARKANSAS STATE HIGHWAY DEPARTMENT
 LITTLE ROCK, ARK.
 Drawn By: Noe Date: 6.22.29
 Traced By: Dunn Date: 7.6.29
 Checked By: R.R. Date: 7/18/29
 BRIDGE NO. 1230 DRAWING NO. 1708
 N.B. Lane
 BRIDGE ENGINEER



STEEL NOTES

Specifications: Ark. State Highway Department Specifications, Adopted May 30, 1925 & Revised.

These drawings are general only. Shop drawings must be submitted and approved before fabrication begins.

Members of equal or greater strength may be used in place of members shown, but payment will be made in accordance with sizes shown on these plans.

Live Load - See Specifications for Varying Spans
 Concentrated Load - 2-15 Ton Trucks as shown
 Impact - 100 - (L+300)

Unit Stresses:
 Concrete = 1:2:3 - 810 lbs. per sq. in.
 Struct. Steel = 18,000 " " " "
 Reinf'g = 18,000 " " " "

Rivets to be 7/8" diameter except in top and bot laterals, sway bracing and in Planges of channels smaller than 12". Rivets in the above named members shall be 3/4" diameter.

Rivet holes - Sub-punch both shop and field holes in all main truss connections 3/16" smaller than rivet specified and ream to 1/16" larger than rivet specified during shop assembly.

Members shall be match-marked and a suitable diagram furnished for erection.

All field connections to be riveted.
 Rivet holes in tension angles so spaced that only 1 hole is deducted from each angle at point of maximum stress.
 Shop paint 1 coat red lead and raw linseed oil. Field paint two coats of different colors as approved by the engineer.
 Batten plates shall be spaced not over 3'-0" c.c. on tension members.
 Concrete floor slab to be Class "B" Extra finished for wear.
 Stringers & Pl. beams to be milled to exact length.

DETAILS OF SPANS 3, 4 & 5 FOR BRIDGE OVER OUACHITA RIVER AT CALION, ARK. UNION-CALHOUN COUNTIES - ROUTE #16 SEC. #2 & 3

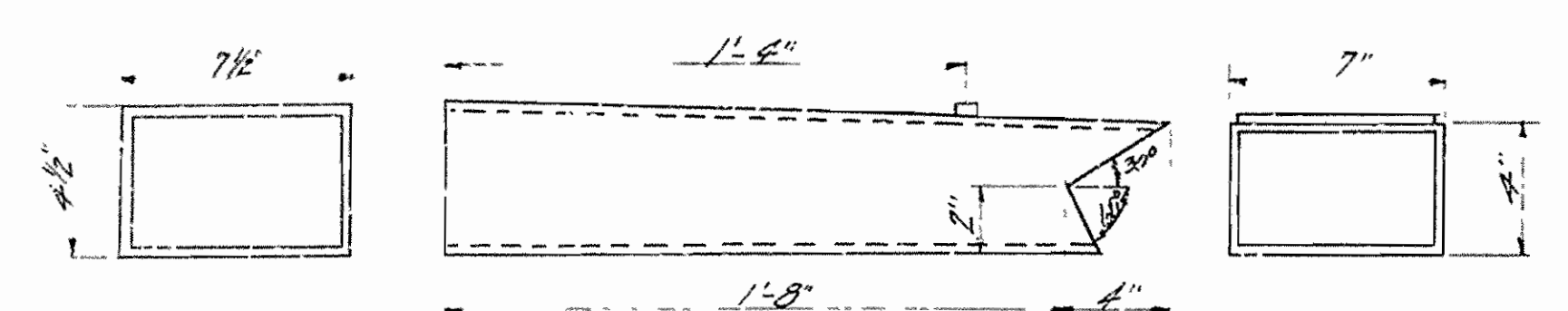
ARKANSAS STATE HIGHWAY DEPARTMENT
 LITTLE ROCK, ARK.

Drawn By: *Mac* Date: 6-26-29
 Traced By: *Mac* Date: 7-1-29
 Checked By: *Mac* Date: 7-11-29

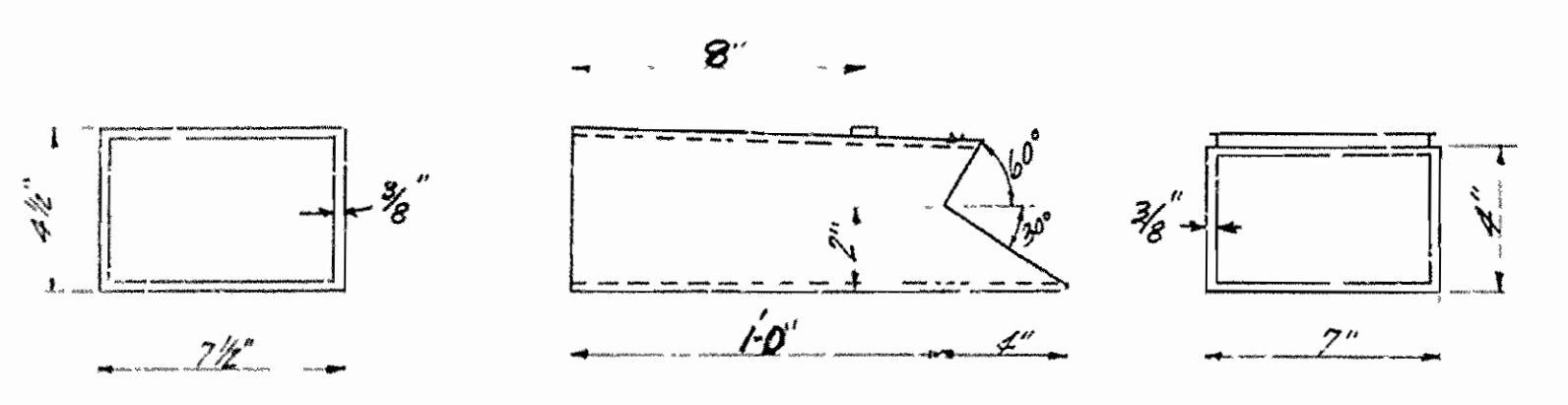
Scale: 3/4" = 1 ft.

Bridge No. 1230 DRAWING NO. 1704

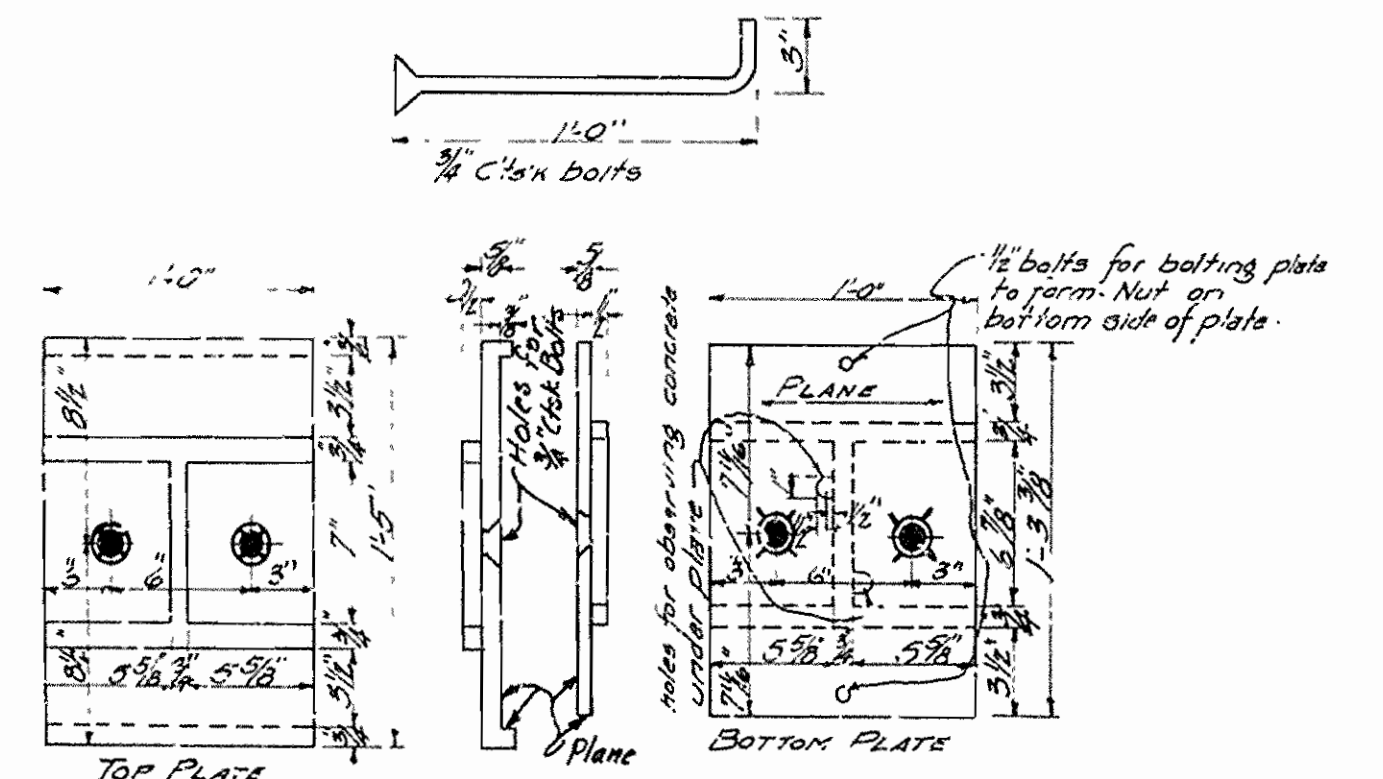
N.B. Lawrence
 BRIDGE ENGINEER



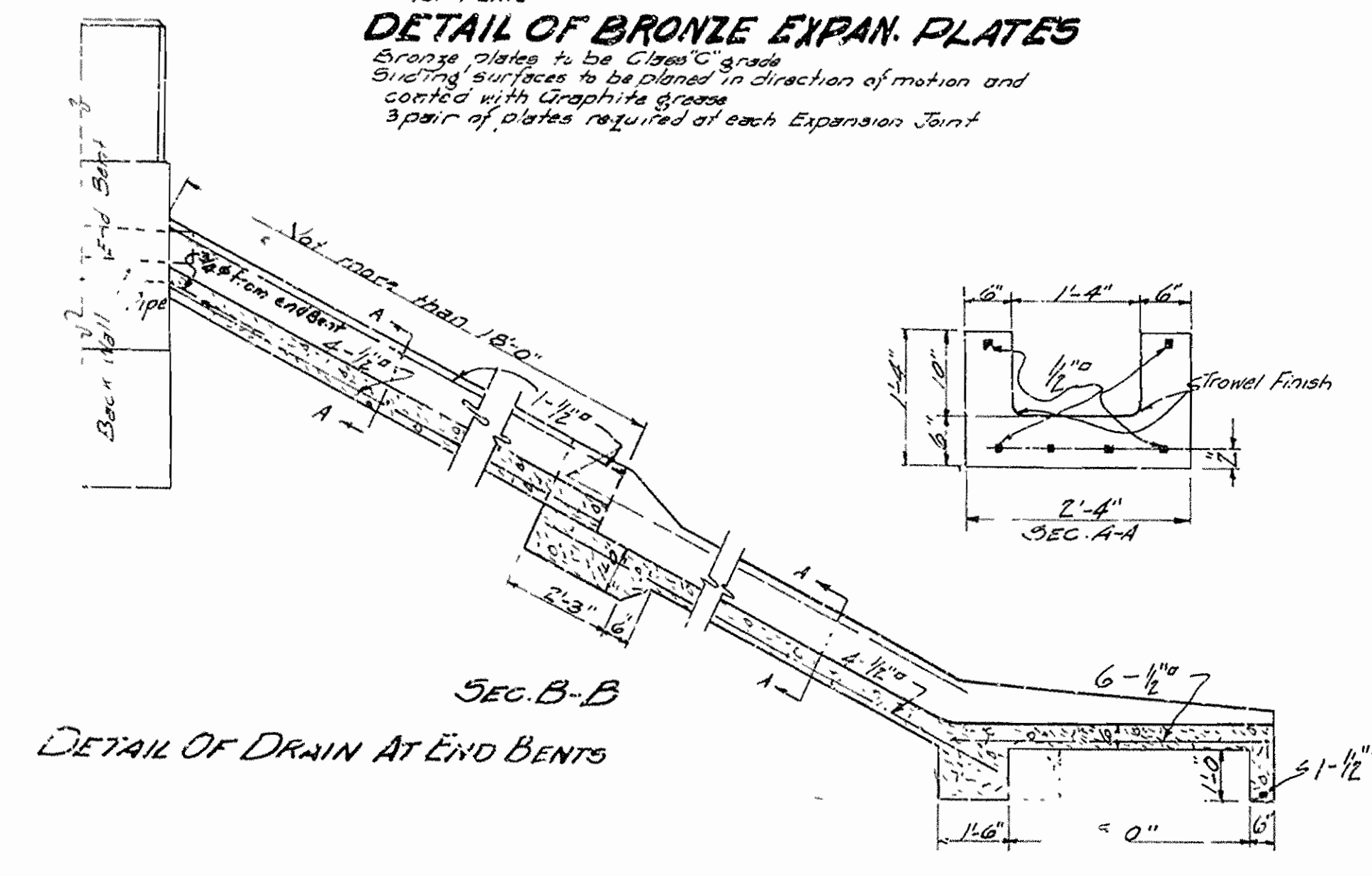
DETAIL OF C.I. DRAINS FOR STEEL SPANS
These drains to be placed 90° with vertical



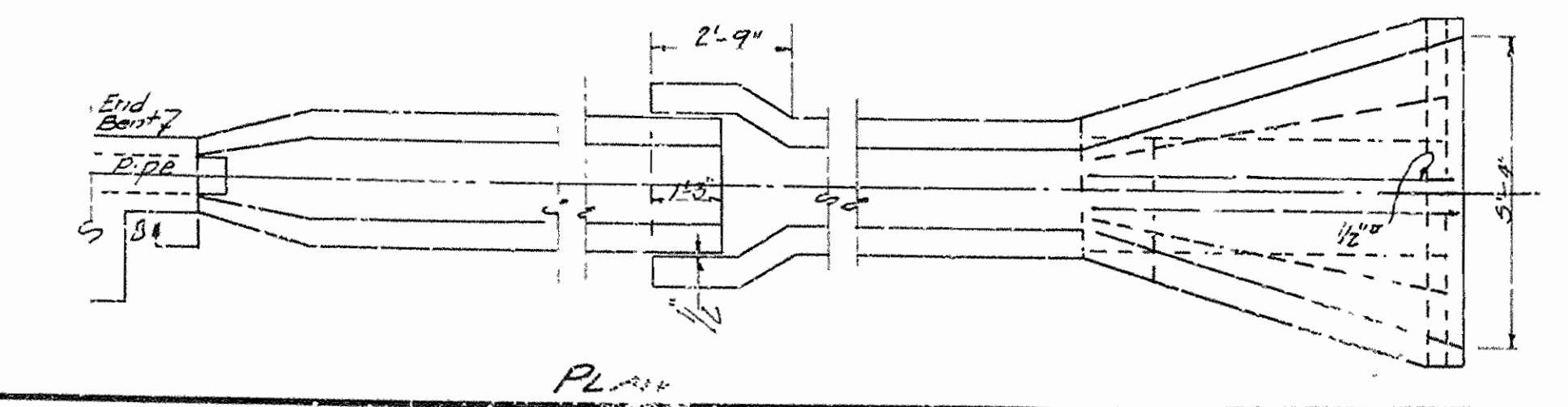
DETAIL OF C.I. DRAINS FOR CONCRETE SPANS
These drains to be placed 90° with vertical



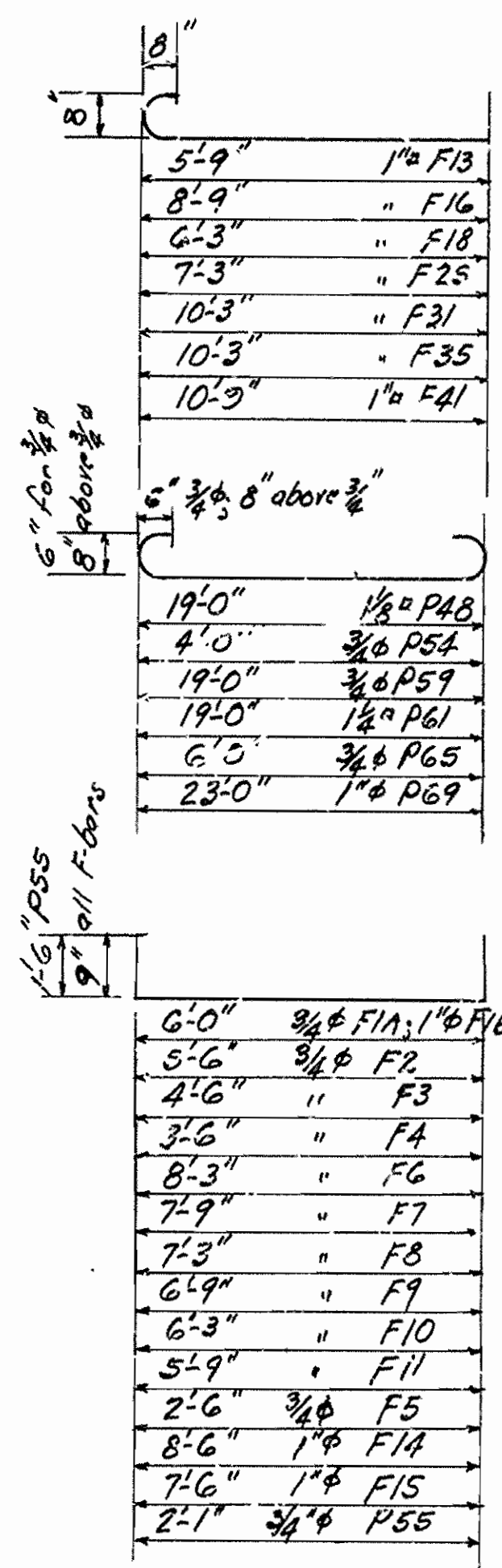
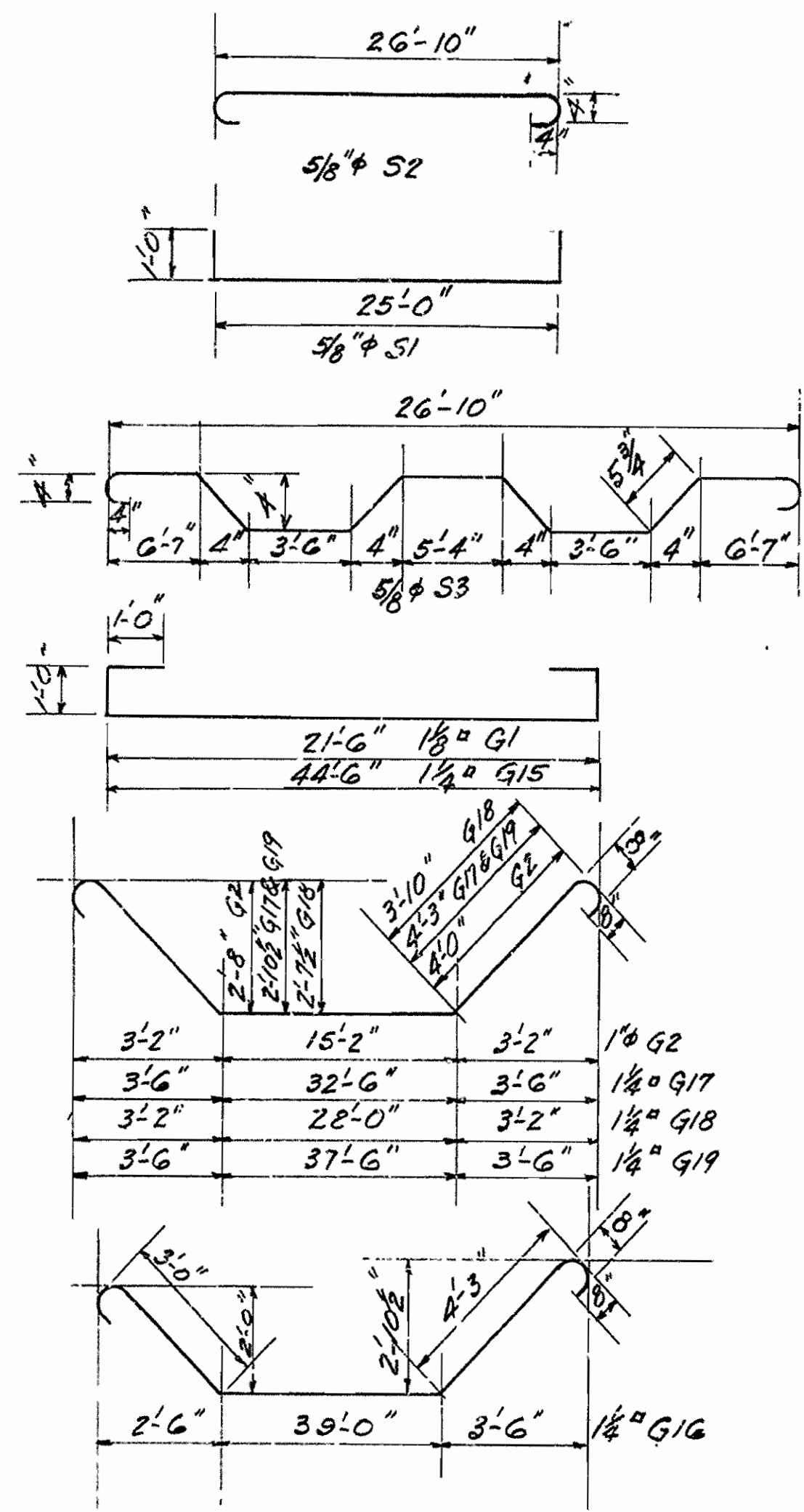
DETAIL OF BRONZE EXPAN. PLATES
Bronze plates to be Class C grade
Sliding surfaces to be dipped in direction of motion and coated with Graphite Grease
3 pair of plates required at each Expansion Joint



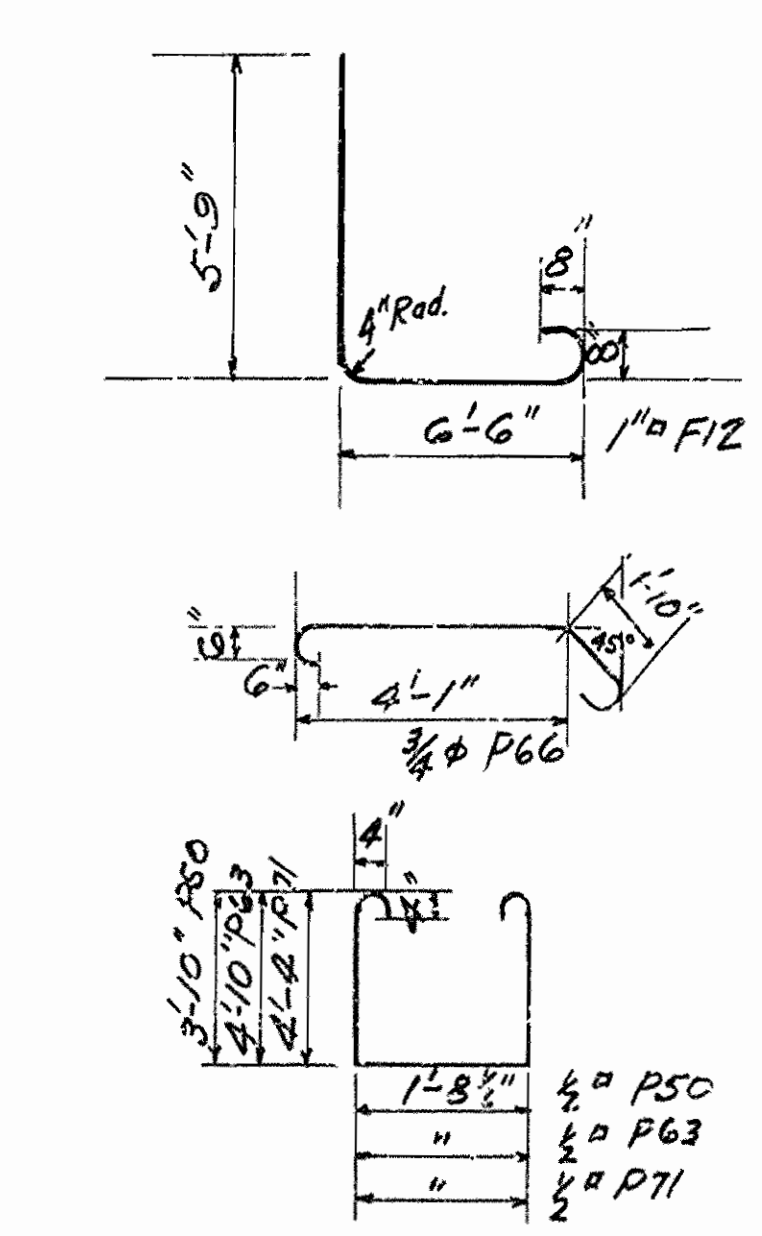
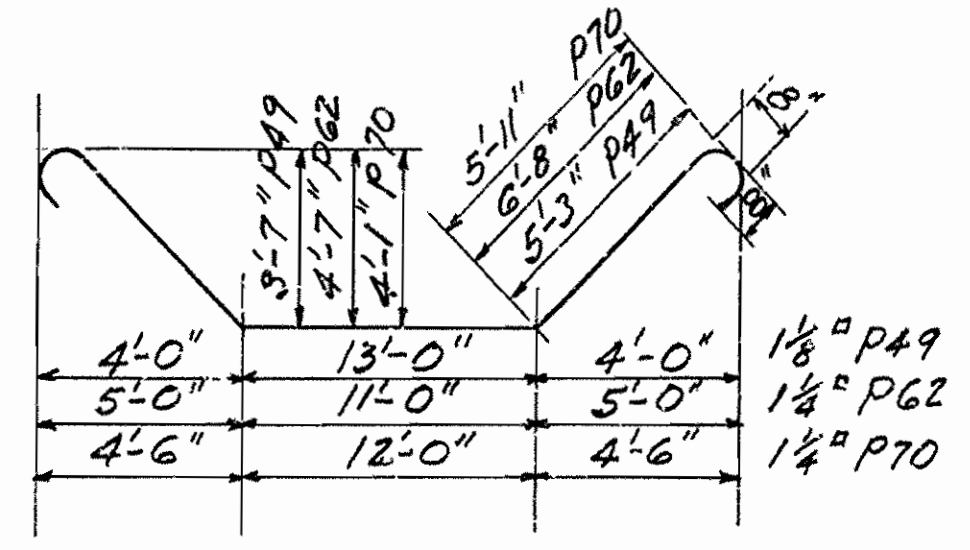
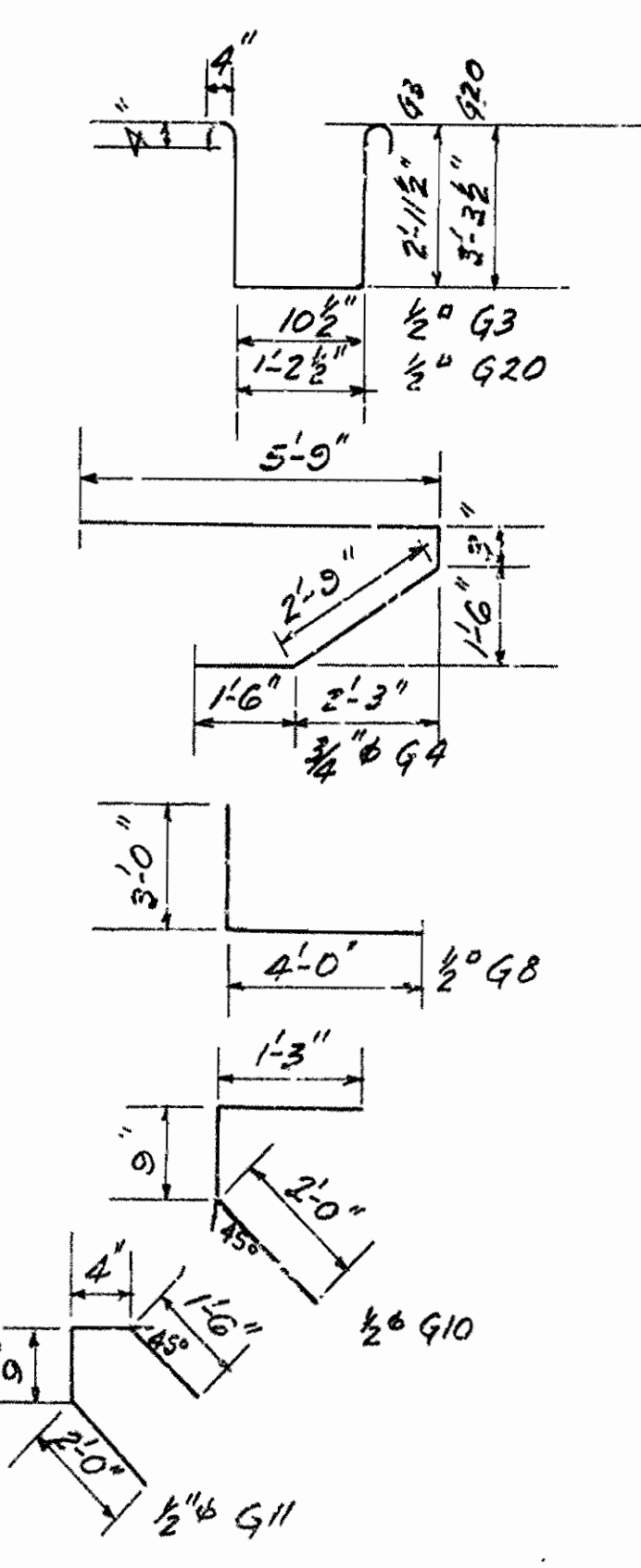
DETAIL OF DRAIN AT END BENTS



For Slab Steel on Truss Spans See Drawgs. 1704 & 1709



Varies	A	B	C	D	Size	Mark
	1'-8 1/2"	1'-8 1/2"	3"	4 1/2"	1/2"	P36
	"	1'-9 1/2"	"	"	"	P37
	"	1'-10 1/2"	"	"	"	P38
	"	1'-11 1/2"	"	"	"	P39
	"	2'-0 1/2"	"	"	"	P40
	"	2'-1 1/2"	"	"	"	P41
	"	2'-2 1/2"	"	"	"	P42
	"	2'-3 1/2"	"	"	"	P43
	"	2'-4 1/2"	"	"	"	P44
	"	2'-5 1/2"	"	"	"	P45
	"	2'-6 1/2"	"	"	"	P46
	1'-8 1/2"	2'-7 1/2"	"	4 1/2"	1/2"	P47
	0'-10"	1'-7"	"	3 1/2"	3/8"	P58
	1'-1"	1'-7"	3"	3 1/2"	3/8"	P68
	3'-3 1/2"	3'-0 1/2"	4"	6"	3/4"	P77 Pier #8
	3'-0 1/2"	3'-0 1/2"	4"	6"	"	P77 Pier #1
	2'-2"	4'-2"	"	"	3/4"	P83
	2'-1 1/2"	3'-0 1/2"	"	"	5/8"	P86 Pier #7
	3'-3"	3'-0 1/2"	"	"	5/8"	P86 "#2
	2'-2"	4'-10"	"	"	3/4"	P92
	2'-1 1/2"	3'-4"	"	"	"	P94
	2'-7 1/2"	3'-0 1/2"	"	"	"	P95
	2'-2"	3'-4"	"	"	"	P102
	2'-2"	4'-6"	"	"	3/4"	P103
	1'-7 1/2"	3'-11 1/2"	"	"	5/8"	P106 Pier #4
	1'-5 1/2"	3'-11 1/2"	"	"	5/8"	P106 "#5
	2'-2"	4'-0"	"	"	3/4"	P113



For General Notes see Drawg. No. 1695

BENDING DIAGRAMS & MINOR DETAILS
FOR BRIDGE OVER
OUACHITA RIVER
AT CALION, ARK.
UNION- CALHOUN COUNTIES
ROUTE 167 SEC. 2 & 3
ARKANSAS STATE HIGHWAY DEPARTMENT
LITTLE ROCK, ARK.
Drawn By: *[Signature]* Date: _____
Traced By: *[Signature]* Date: _____
Checked By: *[Signature]* Date: *11/16/27*
Scale: in. = ft.
as noted
BRIDGE NO. 1250 DRAWING NO. 1710

[Signature]
BRIDGE ENGINEER

OUACHITA RIVER

KELIHER CONSTRUCTION COMPANY
 LITTLE ROCK, ARK.
 CONTRACTOR

ARKANSAS
 STATE HIGHWAY COMMISSION

DWIGHT H. BLACKWOOD, CHAIRMAN

J. LAN WILLIAMS JUSTIN MATTHEWS

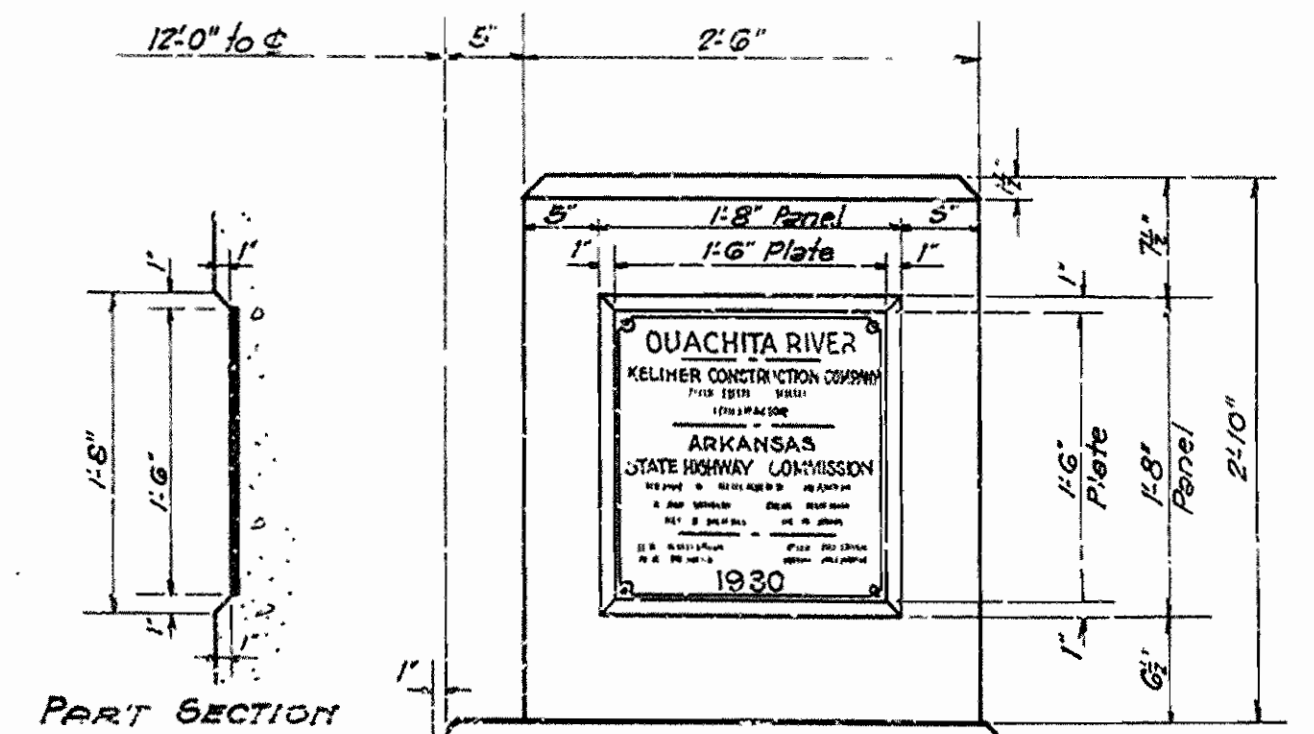
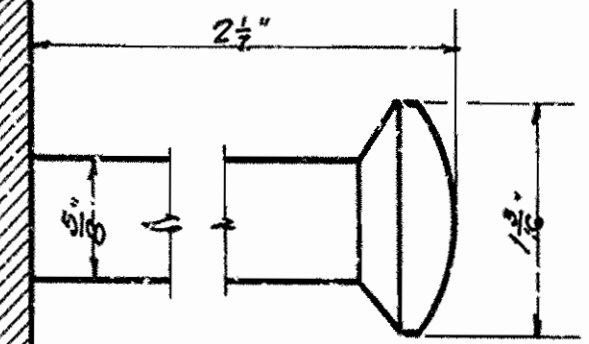
SAM J. WILSON J. S. PARKS

C. S. CHRISTIAN, CHIEF ENGINEER
 N. B. GARVER, BRIDGE ENGINEER

1930

BRIDGE NO.

Center of Cast Lug Same 4 Corners



For Details not shown See Drawg. No. 1698
 Panels on 4 End Posts. Nameplates on Rt. Hand posts only.

DETAILS OF END POST SHOWING REVISED PANEL
 Scale: 1" = 1'-0"

Nameplates to be made of U.S. Specification Statuary Bronze. The border and all lettering raised 3/8" above face of plate and the top surfaces of the raised border and lettering to be polished. All lettering to be plain Gothic, square cut and tapered.

2 Plates Required for Bridge

DETAILS OF NAMEPLATES
 OUACHITA RIVER BRIDGE
 NEAR CALION, ARK.

ROUTE 157 SEC. 19243
 ARKANSAS STATE HIGHWAY COMMISSION
 LITTLE ROCK, ARK.
 Drawn By: *[Signature]* Date: 6-21-30
 Traced By: *[Signature]* Date: _____
 Checked By: _____ Date: _____
 BRIDGE ENGINEER
 BRIDGE NO. _____ DRAWING NO. 1710A